PIONEER®
The Art of Entertainment

Service Manual

ORDER NO.
ARP2937

STEREO MIXING AMPLIFIER

SA-V350K

- **Refer to the service manuals ARP2929 for SA-V350/RY and ARP2901 for SA-V350/RL.**

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	Remarks
	SA-V350K		
KUC	O	AC120V	

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O-SZS JUNE 1996 Printed in Japan

CONTRAST OF MISCELLANEOUS PARTS

NOTES:

- *Parts marked by "NSP"are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by " ⊙ "are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47K ohm (tolerance is shown by J=5%, and K=10%).

560 → 56 × 10^1 → 561 ..... RD1/4PU 5 6 1 J

47 k → 47 × 10^3 → 473 ..... RD1/4PU 4 7 3 J

0.5 → 0R5 ..... RN2H 0 R 5 K

1 → 1R0 ..... RS1P 1 R 0 K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62 k → 562 × 10^1 → 5621 ..... RN1/4PC 5 6 2 1 F

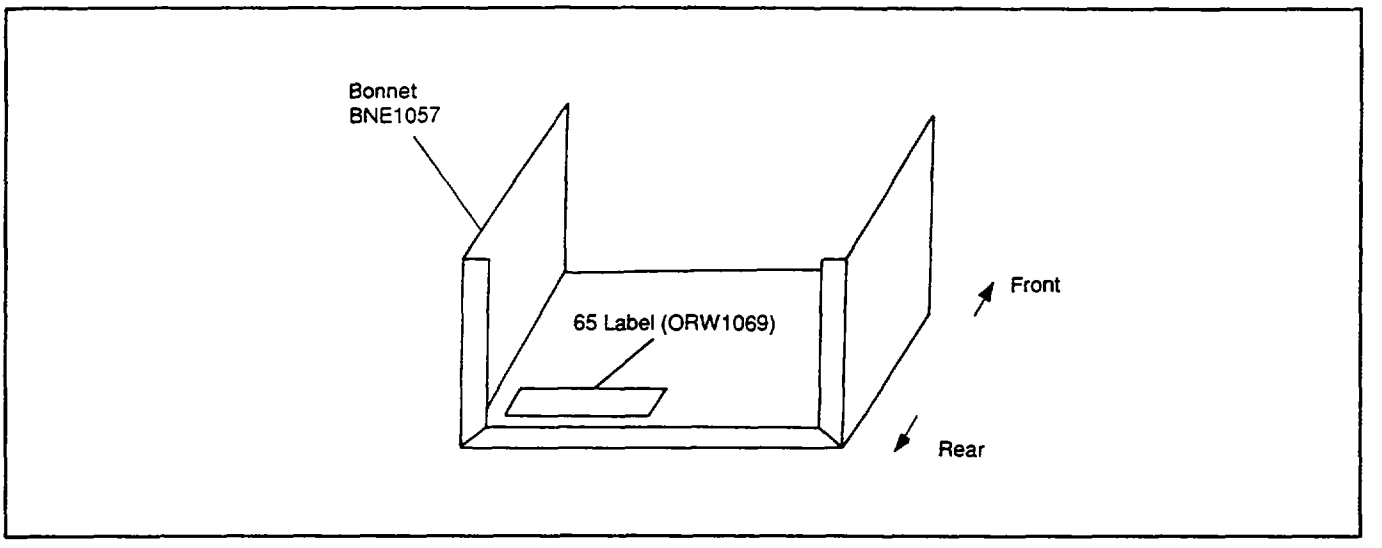
■ CONTRAST OF SA-V350K/KUC AND SA-V350/RY

SA-V350K/KUC and SA-V350/RY have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		SA-V350/RY	SA-V350K/KUC	
NSP	MAIN ASS'Y	BWK1017	BWK1030	
	CONNECT ASS'Y	BWZ1711	BWZ1607	
	POWER ASS'Y	BWZ1710	BWZ1718	
	AC ASS'Y	BWZ1529	BWZ1603	
	SW1 ASS'Y	BWZ1544	Not used	
	SW2 ASS'Y	Not used	BWZ1717	(1)
	D1601 DIODE	D3SBA20(B)	RBV402	
⚠	POWER TRANSFORMER (T8029)	BTS1001	BTS1004	
⚠	C301 (0.01/AC400)	ACG7010	Not used	
⚠	FUSE FU1	AEK-513 (T3.15A/250V)	REK1086 (8A)	
⚠	FUSE FU2	AEK-513 (T3.15A/250V)	Not used	
⚠	FUSE FU3	Not used	REK1083 (5A)	(2)
⚠	FUSE FU4, FU5	AEK-508 (T1A/250V)	REK1076 (1.25A)	
⚠	FUSE FU6	AEK-501 (T160mA/250V)	AEK1010 (500mA/125A)	
⚠	FUSE FU7	AEK-504 (T400mA/250V)	AEK1010 (500mA/125A)	
⚠	AC POWER CORD	ADG1127	BDG1031	
	FAN MOTOR	AXM1022	BXM1007	
	REAR PANEL	BNC1100	BNC1102	
	FRONT PANEL	BMB1022	BMB1026	
	COVER	AEC-294	Not used	
	BONNET CASE	BNE1045	BNE1057	
	PACKING CASE	BHD1344	BHD1349	
	OPERATING INSTRUCTIONS	BRA1119 (En, Fr, Ge, It, Sp)	BRA1117 (En, Fr)	
	CAUTION SHEET	BRH1015	Not used	
	65 LABEL	Not used	ORW1069	(3)

Note : Refer to "● SCHEMATIC AND PCB DIAGRAM" for (1) and (2), and "● Exploded Views" for (3).

● Exploded Views



■ CONTRAST OF PCB ASSEMBLIES

CONNECT ASS'Y

BWZ1607 and BWZ1711 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		BWZ1711	BWZ1607	
	IC605	NJM7805FAS	NJM78M05FAS	
	IC606	UPC2415AHF	UPC24M15AHF	
	IC607	NJM7915FAS	NJM79M15FA	
	C632, C633	BCH1012 (12000/63)	BCH1015 (18000/50)	

POWER ASS'Y

BWZ1718 and BWZ1710 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		BWZ1710	BWZ1718	
	R115, R116	RD1/4PU152J	RD1/4PU561J	
	R139–R142	RD1/4PU121J	RD1/4PU470J	

AC ASS'Y

BWZ1603 and BWZ1529 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		BWZ1529	BWZ1603	
⚠	C501, C502	ACG7005 (0.01/AC250V)	ACG7010 (0.01/AC250V)	
⚠	S502 VOLTAGE SELECTOR	AKX1033	Not used	
⚠	AC OUTLET (3P)	Not used	AKP1053	
⚠	CN502 AC INLET (1P)	AKP1132	AKP1122	

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Service Manual

ORDER NO.
ARP2929

STEREO MIXING AMPLIFIER

SA-V350

● Refer to the service manual ARP2901 for SA-V350/RL.

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	The voltage can be converted by the following method.
	SA-V350		
RY	O	AC110–120V/220–240V	With the voltage selector

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1. CONTRAST OF MISCELLANEOUS PARTS

NOTES:

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by " ⊙ " are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

SA-V350/RY and SA-V350/RL have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		SA-V350/RL	SA-V350/RY	
	INPUT ASS'Y	BWZ1519	BWZ1705	
	CONTROL ASS'Y	BWZ1520	BWZ1707	
	SP ASS'Y	BWZ1522	BWZ1709	
	VOL ASS'Y	BWZ1524	BWZ1706	
	LED ASS'Y	BWZ1525	BWZ1708	
	POWER ASS'Y	BWZ1527	BWZ1710	
	CONNECT ASS'Y	BWZ1526	BWZ1711	
	DSP ASS'Y	BWZ1532	BWZ1743	
	MIC ASS'Y	BWZ1530	BWZ1713	
	TRANS 2 ASS'Y	BWZ1523	BWZ1744	
	REAR PANEL	BNC1083	BNC1100	
	OPERATING INSTRUCTIONS	BRA1107	BRA1119	
	PACKING CASE	BHD1308	BHD1344	
	REMOTE CONTROL UNIT	Not Attached	BXD1009	

INPUT ASS'Y

BWZ1705 and BWZ1519 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		BWZ1519	BWZ1705	
	C1007, C1008,C1011,C1012	CKCYB391K50	CKMYB221K50	
	C1015, C1016	CKCYB391K50	CKMYB391K50	
	C1059	CKCYF473Z50	CKCYB103K50	
	C1061, C1062	CCMSL270J50	CKMYB152K50	
	C1063–C1066	CCMSL270J50	Not Used	
	C1067, C1068	CCMSL270J50	CKMYB102K50	
	C1069, C1070	Not Used	CCMSL101J50	
	C1071, C1072, C1075	Not Used	CKDYB103K50	
	C1073, C1074	Not Used	CKDYB391K50	
	R1041, R1042	RD1/4PU101J	RD1/4PU272J	
	R1048, R1065	RD1/4PU472J	RD1/4PU622J	
	R1066, R1067	RD1/2PMFL181J	Not Used	
⚠	R1066, R1067	Not Used	RD1/2PMFL181J	
	R1083, R1084	RD1/4PU330J	RD1/4PU331J	

Note : Refer to "2.1 INPUT ASSY".

CONTROL ASS'Y

BWZ1707 and BWZ1520 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		BWZ1520	BWZ1707	
⚠	C230	Not Used	CKDYX223M25	
⚠	C231	Not Used	CKDYB103K50	

Note : Refer to "2.5 CONTROL ASSY".

SP ASS'Y

BWZ1709 and BWZ1522 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		BWZ1522	BWZ1709	
	L401, L402	ATH1011	Not Used	
	L403, L404	Not Used	ATH1009	
	C409, C410	Not Used	CKCYB103K50	
	C411, C412	Not Used	CKMYB102K50	
	C415, C416	Not Used	CKCYB103K50	
	R403, R404	RD1/2PMFL100J	Not Used	
⚠	R403, R404	Not Used	RD1/2PMFL100J	
	R405, R406	RD1/2PMFL100J	RFA1/4PL101J	
	SPEAKER TERMINAL 4-P	AKE1030	BKE1007	

Note : Refer to "2.4 SP ASSY".

VOL ASS'Y

BWZ1706 and BWZ1524 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		BWZ1524	BWZ1706	
	C1114	CCCSL100D50	CCMSL330J50	
	C1119–C1121	CCCCH100D50	CCMSL330J50	
	C1125, C1126, C1131, C1132	CCCSL100D50	CCMSL330J50	
	R1113, R1114	RD1/4PU101J	RD1/4PU681J	

LED ASS'Y

BWZ1708 and BWZ1525 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		BWZ1525	BWZ1708	
	C1208	Not Used	CKCYB103K50	
NSP	LEAD WIRE	Not Used	BDX1407	

Note : Refer to "2.3 LED ASSY".

POWER ASS'Y

BWZ1710 and BWZ1527 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		BWZ1527	BWZ1710	
	Q139–Q142	IRF640	Not Used	
⚠	Q139–Q142	Not Used	IRF640	
	C101, C102	CQMA152J50	CQMA102J50	
	R101, R102	RD1/4PU391J	RD1/4PU101J	
	R103, R104	RD1/4PU104J	RD1/4PU225J	
	R127, R128	RD1/4PMF333J	Not Used	
⚠	R127, R128	Not Used	RD1/4PMF333J	

TRANS 2 ASS'Y

BWZ1744 and BWZ1523 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		BWZ1523	BWZ1744	
	D1606	D5BSBA20(B)	RBV602	

CONNECT ASS'Y

BWZ1711 and BWZ1526 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		BWZ1526	BWZ1711	
	C644	CEAS221M25	Not Used	
⚠	C644	Not Used	CEAS221M25	
	C681	CKCYB102K50	CKCYB103K50	
	R601	RS3LMF271J	Not Used	
⚠	R601	Not Used	RS3LMF271J	
	R634	RS1LMF1R8J	Not Used	
⚠	R634	Not Used	RS1LMF1R8J	
	R635	RS2LMF4R7J	Not Used	
⚠	R635	Not Used	RS2LMF4R7J	
	R639	RS3LMF221J	Not Used	
⚠	R639	Not Used	RS3LMF221J	
	R643, R645	RFA1/4PS270J	Not Used	
⚠	R643, R645	Not Used	RFA1/4PS270J	
	R659, R661	RD1/4PMF122J	Not Used	
⚠	R659, R661	Not Used	RD1/4PMF821J	
	R678	RFA1/4PS4R7J	Not Used	
⚠	R678	Not Used	RFA1/4PS4R7J	
	R684	RS2LMF562J	Not Used	
⚠	R684	Not Used	RS2LMF562J	

DSP ASS'Y

BWZ1743 and BWZ1532 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		BWZ1532	BWZ1743	
	IC701, IC704, IC705	XRA4558F-P	XLA4558F-P	
	C782–C784	CKSQYB102K50	Not Used	
	C785–C787	CCSQCH221J50	CKSQYB182K50	
	C824	CCSQCH101J50	Not Used	
	C825, C826	CFTYA104J50	Not Used	
	C855, C856	CCSQCH270J50	Not Used	
	C869–C871	Not Used	CKSQYB102K50	
	C872–C874	Not Used	CKCYB103K50	
	C875	Not Used	CKDYB103K50	
	C876–C881	Not Used	CCSQSL330J50	
	C882	Not Used	CKSQYB103K50	
	R741, R742	RFA1/4PS100J	Not Used	
⚠	R741, R742	Not Used	RFA1/4PS100J	
	R782–R784	RS1/10S681J	RS1/10S102J	
	R788–R790	RS1/10S103J	RS1/10S223J	
	R797–R799	RS1/10S470J	RS1/10S101J	
	GROUND PLATE (KN702)	Not Used	ANK-142	

Note : Refer to "2.2 DSP ASSY".

MIC ASS'Y

BWZ1713 and BWZ1530 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		BWZ1530	BWZ1713	
	L1301–L1303	Not Used	LAU221K	
	C1308, C1316, C1324	CKSQYB102K50	CCSQSL330J50	
	C1309, C1317, C1325	CCSQSL221J50	CKSQYB152K50	
	C1311, C1319, C1327	CCCSL100D50	CCMCH100D50	
	C1313, C1321, C1329	CCPUSL100J50	CCPUSL330J50	
	R1301, R1308, R1315	RD1/4PU681J	RD1/4PU152J	

2. SCHEMATIC AND PCB CONNECTION DIAGRAMS

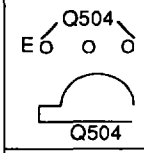
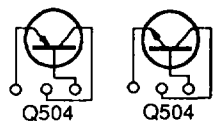
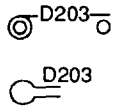
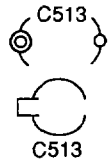
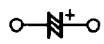
NOTE FOR SCHEMATIC DIAGRAMS (Type 2A)

1. **When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".**
2. **Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.**
3. **RESISTORS:**
   Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
   Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
   Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.
4. **CAPACITORS:**
   Unit: p:pF or μF unless otherwise noted.
   Ratings: capacitor (μF)/ voltage (V) unless otherwise noted.
   Rated voltage: 50V except for electrolytic capacitors.
5. **COILS:**
   Unit: m:mH or μH unless otherwise noted.
6. **VOLTAGE AND CURRENT:**
   ⊐ or ← V :
   DC voltage (V) at no input signal unless otherwise noted.
   ⇦ mA or ← mA :
   DC current at no input signal unless otherwise noted.
7. **OTHERS:**
   - ⊘ or ◐ : Adjusting point.
   - ◁ : Measurement point.
   - The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
8. **SCH—□ ON THE SCHEMATIC DIAGRAM:**
   - SCH—□ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)
9. **SWITCHES** (Underline indicates switch position):

LED ASSY
S1201 : ♭5
S1202 : ♭1
S1203 : #3
S1204 : ♭4
S1205 : ♮
S1206 : #4
S1207 : ♭3
S1208 : #1
S1209 : #5
S1210 : ♭2
S1211 : #2

NOTE FOR PCB DIAGRAMS:

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
		Transistor
		Diode
		Capacitor (Polarized)

3. The transistor terminal marked with E or ⊏ shows the emitter.
4. The diode terminal marked with ◎ or ⊐ shows cathode side.
5. The capacitor terminal marked with ◎ or ⊏ shows negative terminal.
6. The parts mounted on each PCB include all necessary parts for several destinations. For further information for respective destinations, be sure to check with the schematic diagram.

SCH-1F

INPUT ASSY (BWZ1705)

⇨ :Audio signal route

AUDIO INPUT

LD1
200mV/45k

LD2
200mV/44k

VCR/TAPE
200mV/44k

CABLE
200mV/44k

REAR PANEL

BALANCE AMP

LD1 L+R

LD1 SELECT SENSITIBITY
-60dBV:HIGH, -50dBV:MID

LD2 L+R

MIXER

LD2 SELECT SENSITIBITY
-60dBV:HIGH, -50dBV:MID

TAPE L+R

VCR/TAPE L+R

VCR/TAPE SELECT SENSITIBITY
-60dBV:HIGH, -50dBV:MID

SOURCE SELECTOR

IC1007 TC4052BP

BUFFER

VCA

IC1006 M5241L

MUTE

INVERTER

LOGIC		
A	B	FUNCTION
L	L	CABLE
H	L	LD 2
L	H	VCR/TAPE
H	H	LD 1

TO CONNECT ASSY
CN9501(⟶ SCH-4)

FROM FN R
GND
GND
FROM FN L
+7V
-7V
4052B
4052A
4052INH
+15V
-15V
D.GND
VCR/TAPE DETM
LD2 DET M
LD1 DET M

SCH-2F

2.2 DSP ASSY

⇨:Audio signal route

DSP ASSY (BWZ1743)

MIC 1 IN

MIC 2 IN

MIC 3 IN

C869 1000pF

C870 1000pF

C871 1000pF

Q701-Q703: IMPEDANCE CONVERSION

TO CONNECT ASSY CN9512(→ SCH-4)

MIC1 Keycon

MIC2 Keycon

C882 0.01

MIC

LOW PASS FILTER

C876 33p

C881 33p

C879 33p

C877 33p

C878 33p

C880 33p

C875 0.01

C872 0.01

C873 0.01

C874 0.01

KN702

ANK-142

DSP/BYPASS SELECT

LOGIC		
A	B	DSP
L	L	NO
H	H	YES

DSP

IC707

Y9050

Y/5M40-10-T/T

DRAM

ANALOG FILTER

D/A CONVERTER

16.9MHz

-15V
+15V
ECHO IN
GND
MUSIC L
GND
MUSIC R
DSP ON/OFF
DSP OUT R
GND
DSP OUT L
D GND
D +5V
D RST
D CE
D DATA
D CLK
NC
NC
NC

TO CONNECT ASSY CN9504(← SCH-4)

DSP ASSY

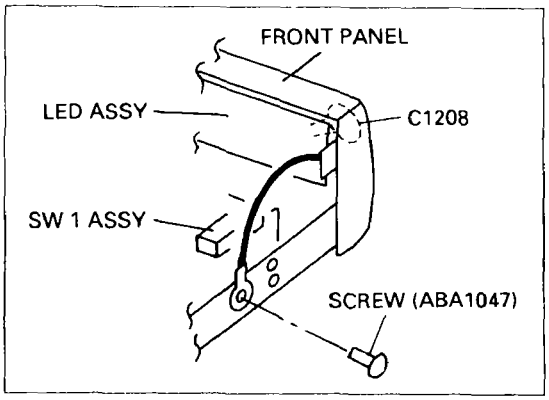
SCH-2F

10

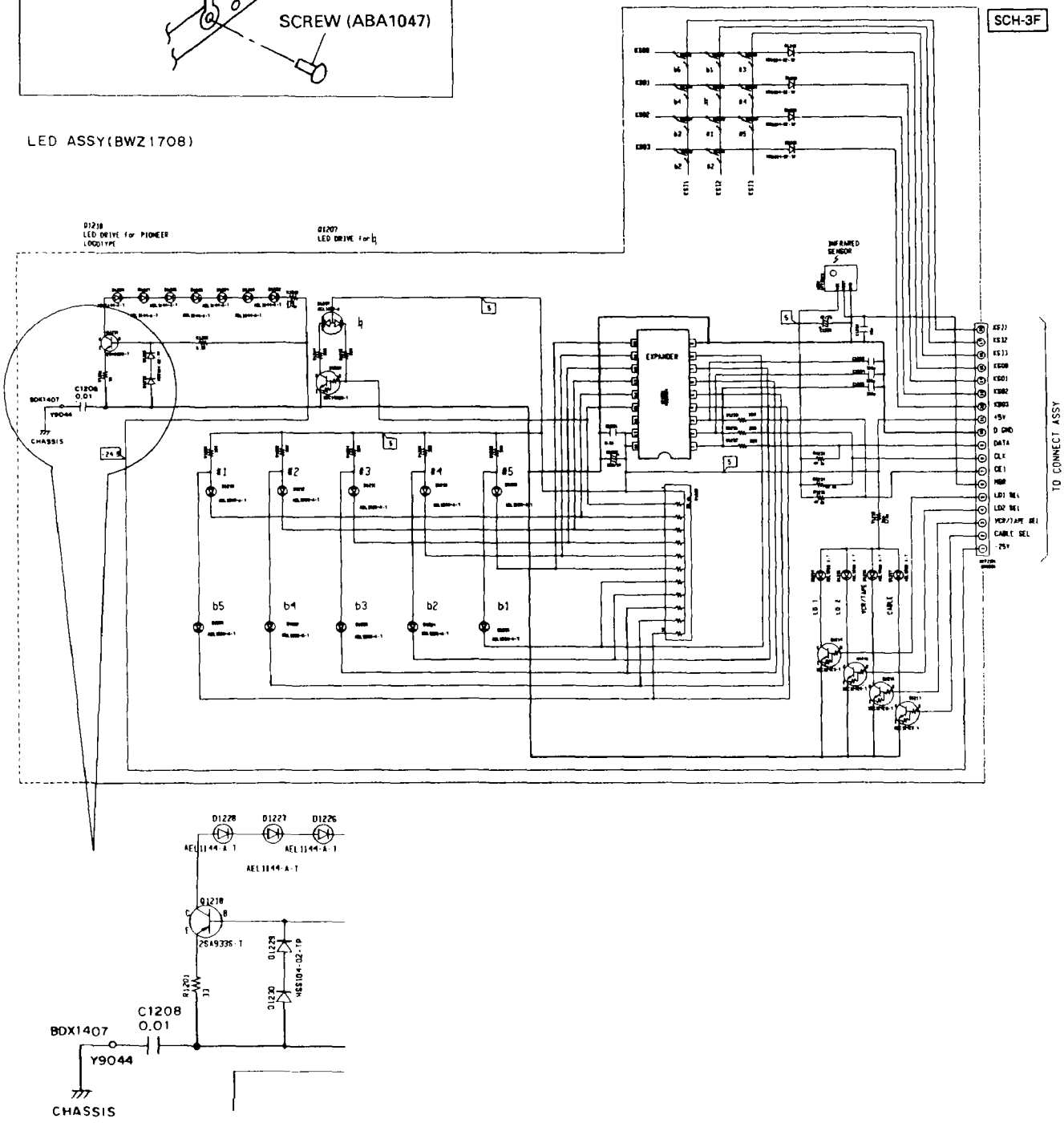
DSP ASSY

SCH-2F

2.3 LED ASSY



LED ASSY(BWZ1708)



LED ASSY

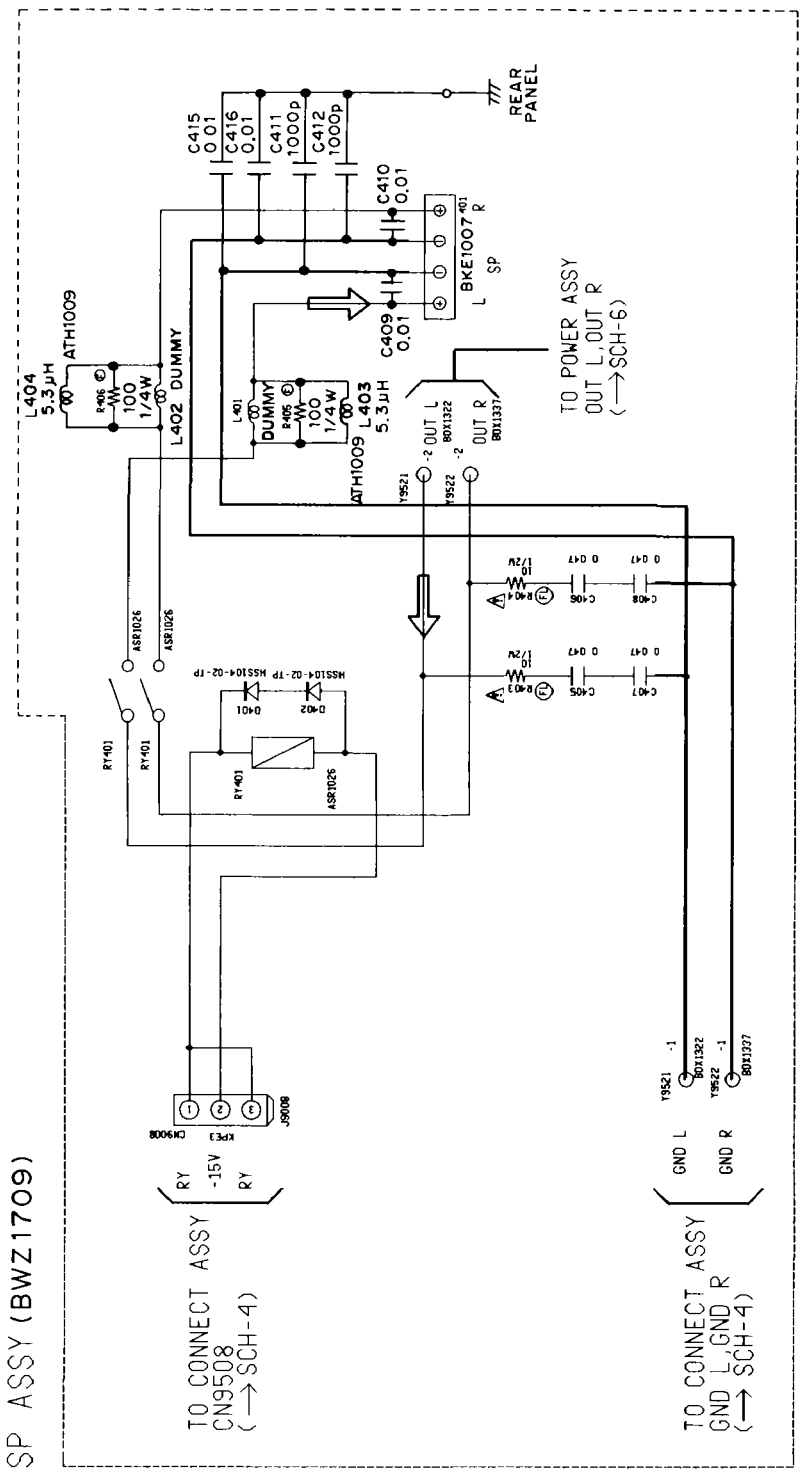
SCH-3F

LED ASSY

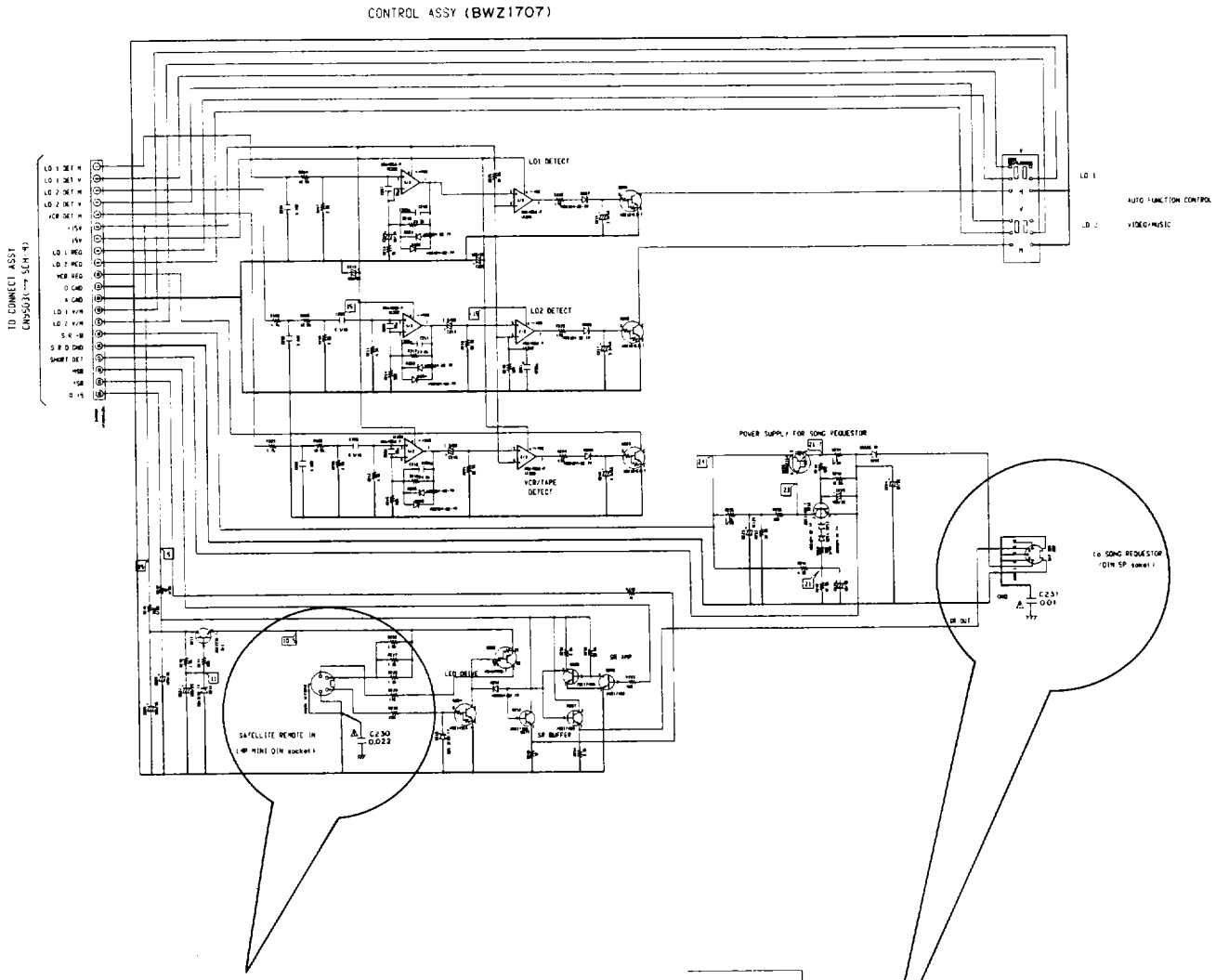
SCH-3F

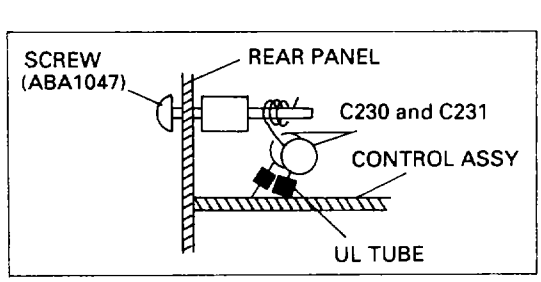
2.4 SP ASSY

SCH-4F



2.5 CONTROL ASSY





CONTROL ASSY

SCH-5F

CONTROL ASSY

SCH-5F

3. ADJUSTMENT

IDLE CURRENT ADJUSTMENT

Be sure to perform this idle adjustment when the power amplifier has been repaired because the idle current will have changed.

1. Always set the main control VR101 (VR102) to minimum (completely rotated in the counterclockwise direction), then turn on the power SW.

2. Adjust the voltage between PR. L + and PR. L – (PR. R + and PR. R –) to 10±3mV using VR101 (VR102).
   After 30 seconds in this state, adjust the voltage to 15±2mV.

3. Lead the wire from PR. L +, PR. L – , PR. R + and PR. R – and close the bonnet. Monitor the voltage between PR. L + and PR. L – (PR. + and PR. R) and wait until it becomes stable.
   Confirm that voltage data is 17±5mV.
   If the data is not within the spec., re-adjust VR101 (VR102).

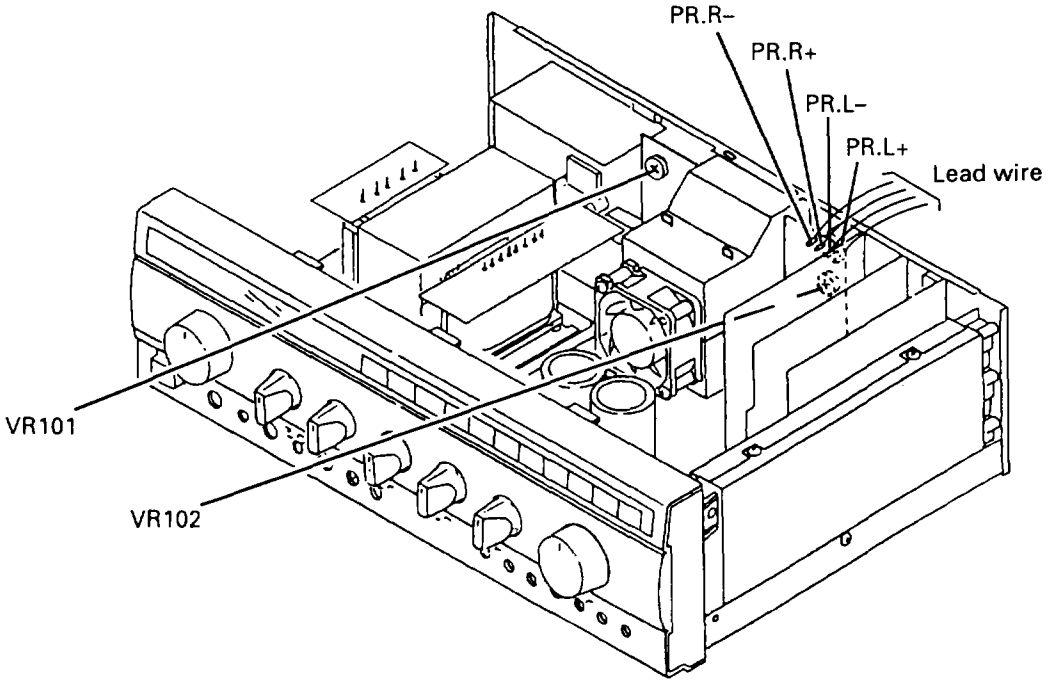
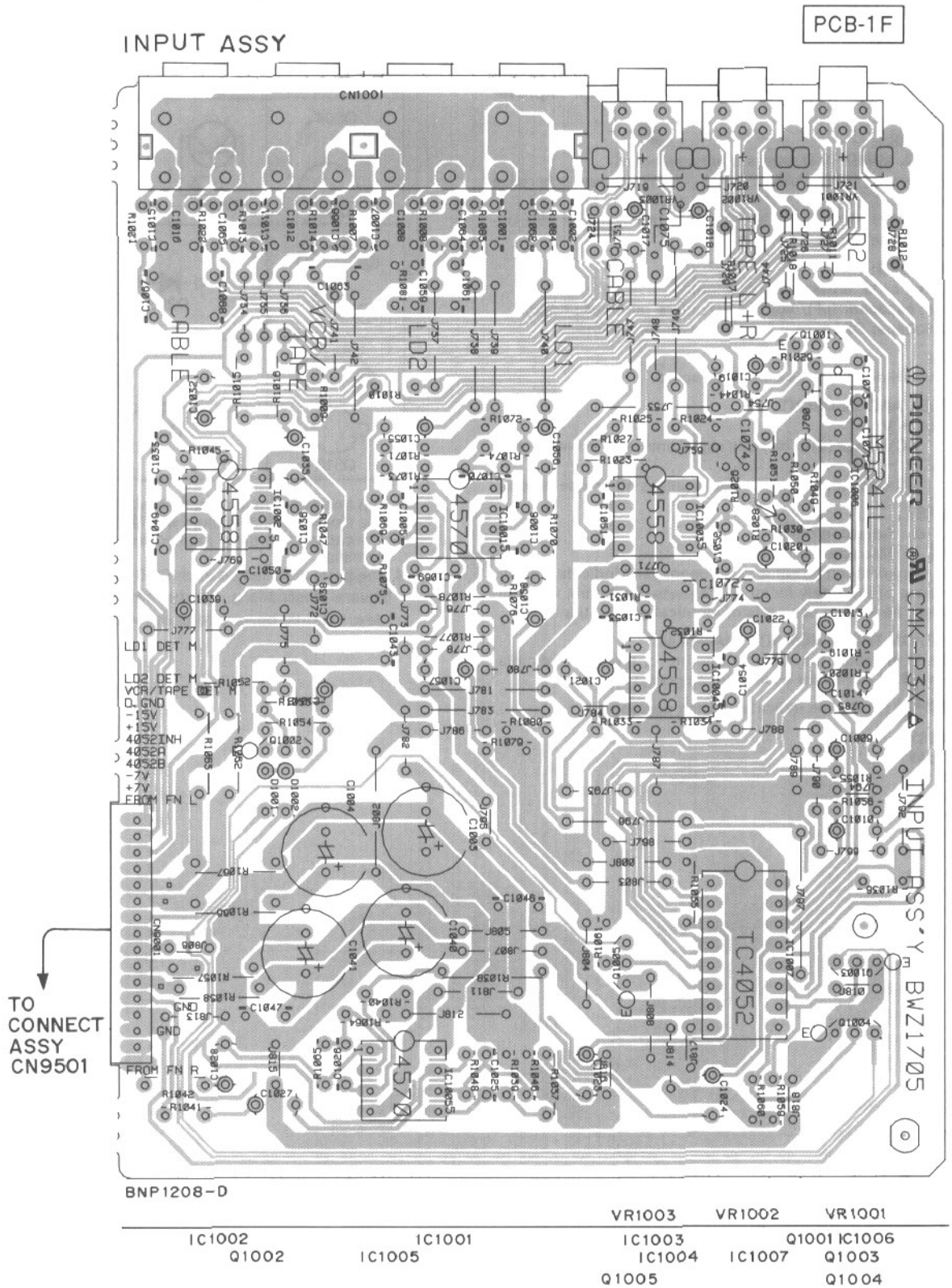


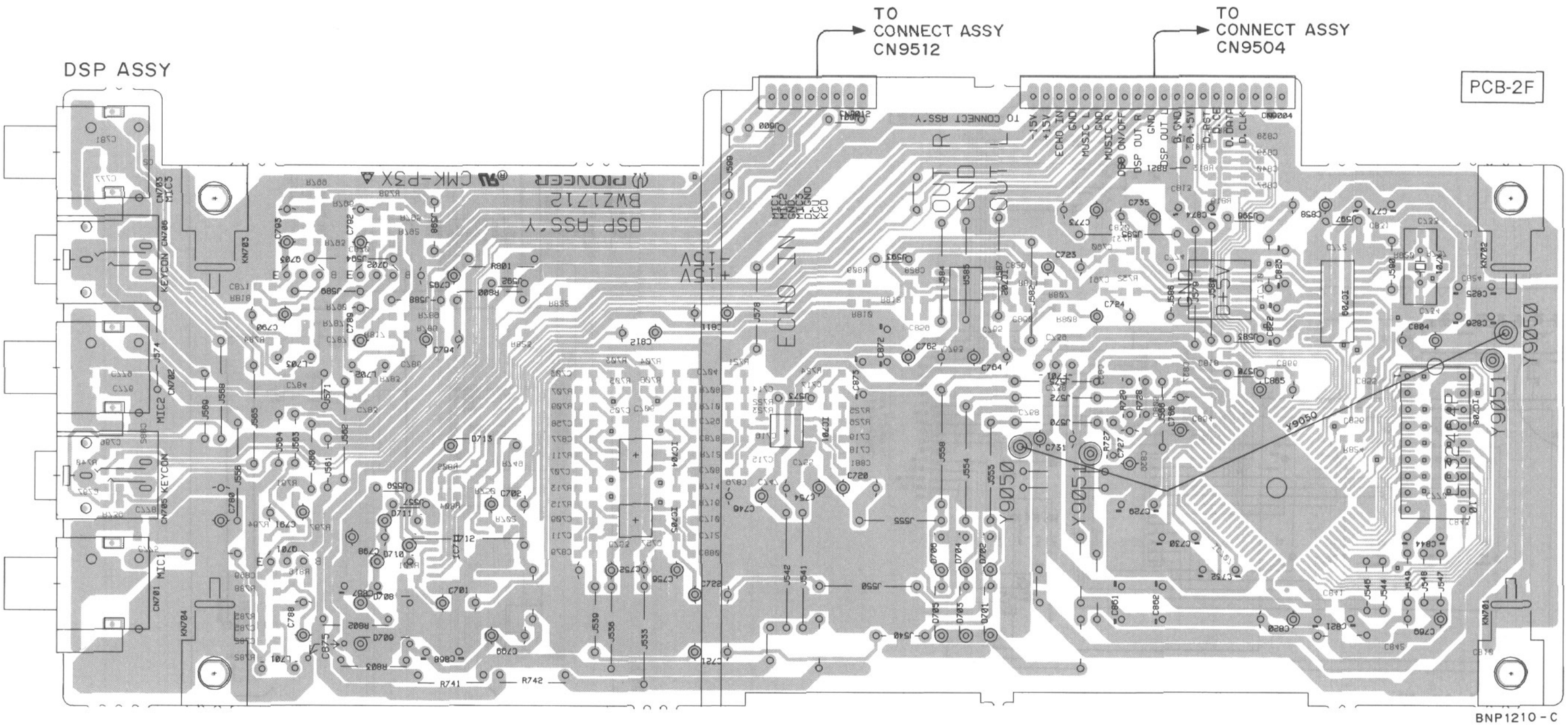
Fig. 1 Adjustment Points

2.1 INPUT ASSY

- This diagram is viewed from the mounted parts side.



• This diagram is viewed from the mounted parts side.

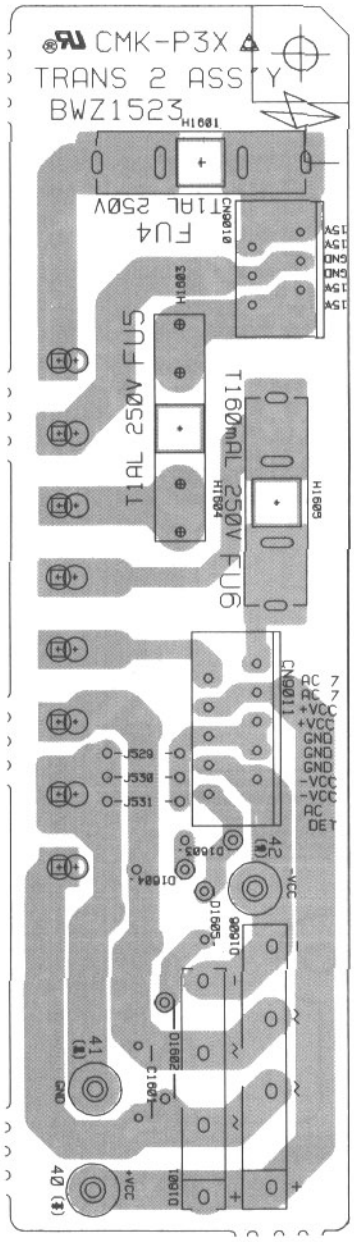


Q703 Q702 Q701 IC704 IC705 IC701 IC709 IC708

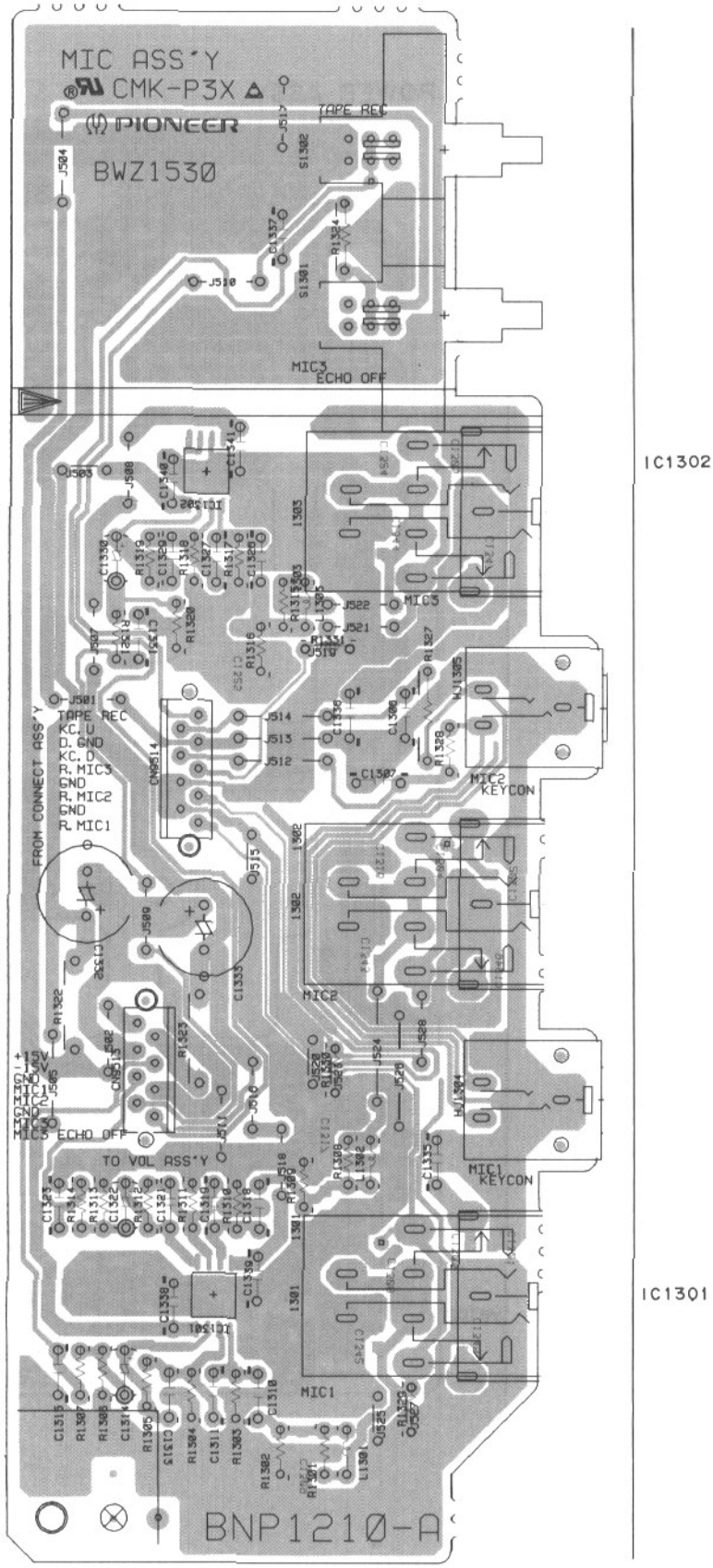
3-7 MIC AND TRANS 2 ASSY

• This diagram is viewed from the mounted parts side.

TRANS2 ASSY



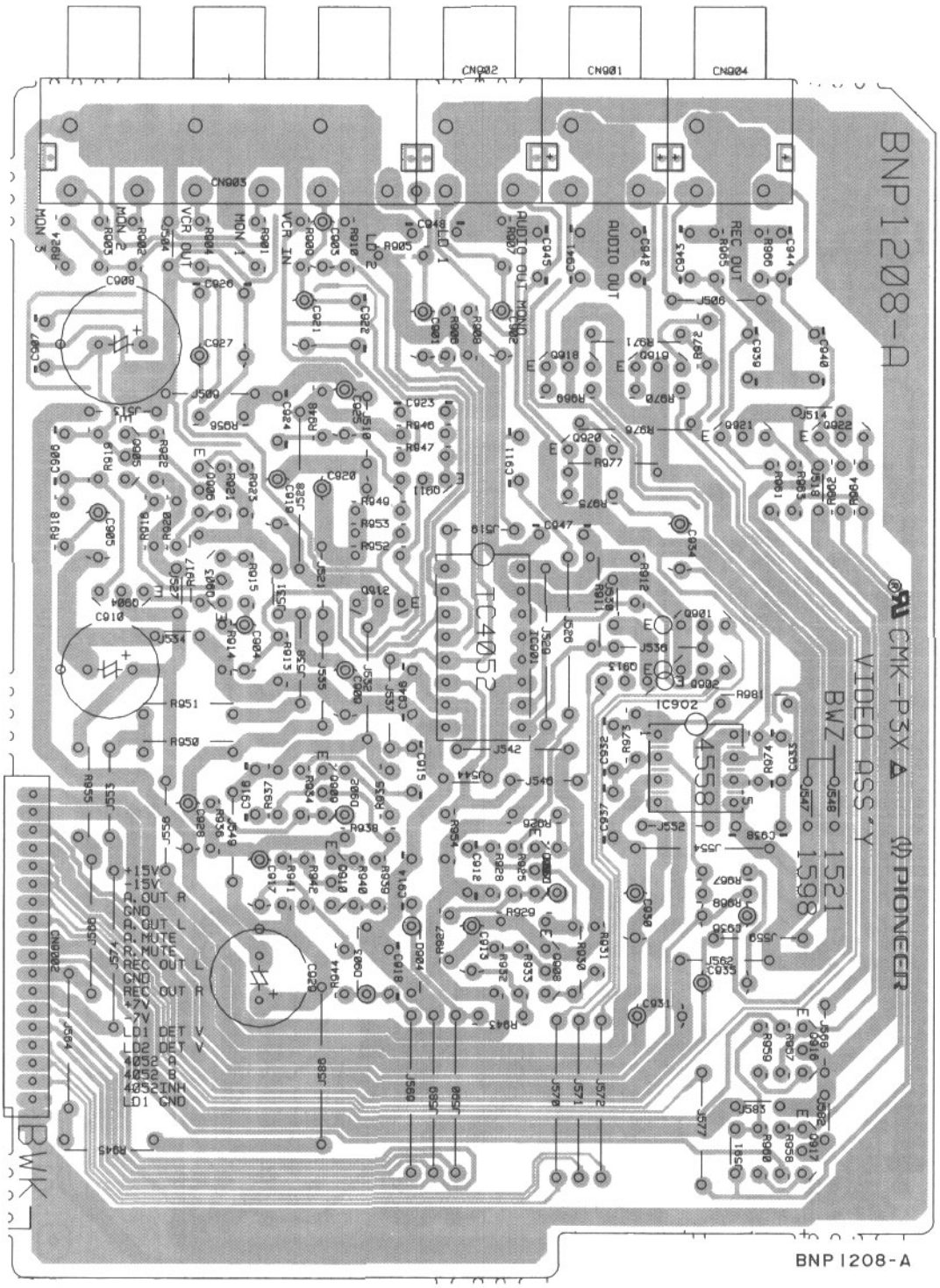
MIC ASSY



PCB-6

- **This diagram is viewed from the mounted parts side.**

VIDEO ASSY

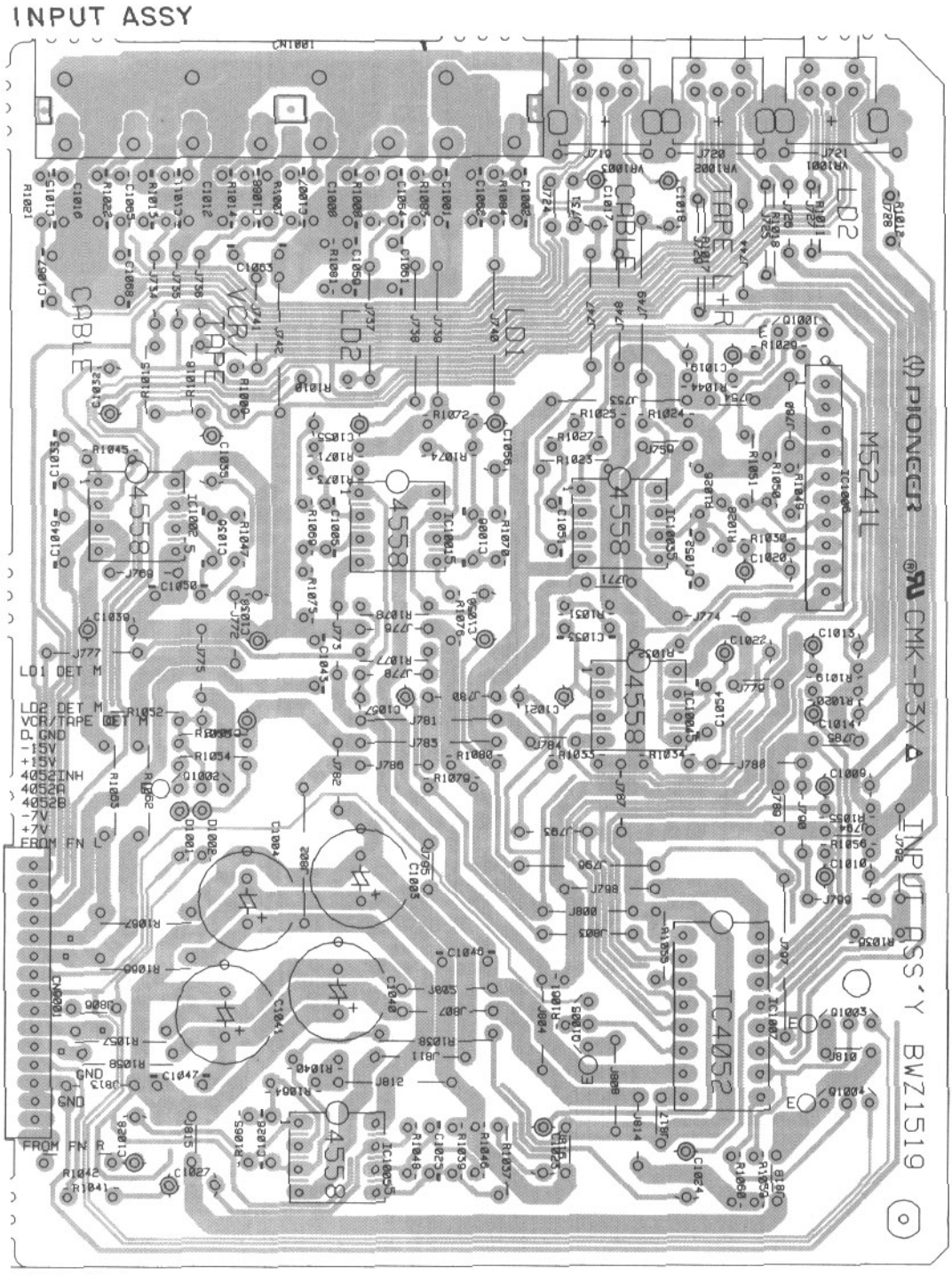


Q905 Q906 Q911 Q918 Q919
Q904 Q903 Q912 IC901 Q920 Q921 Q922
Q909 Q913 Q901
Q910 Q902 Q916
Q908 IC902 Q917

PCB-1

3-3 INPUT ASSY

• This diagram is viewed from the mounted parts side.



PCB-2

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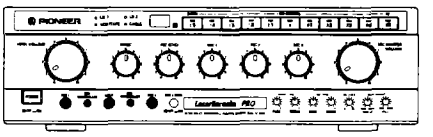
Service Manual



ORDER NO.
ARP2901

STEREO MIXING AMP
SA-V350
SA-V300
REMOTE CONTROL UNIT
CU-V150

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model			Power Requirement	Remarks
	SA-V350	SA-V300	CU-V150		
RL	○	○	—	AC 110–120V/220–240V	With the voltage selecter
Z	—	—	○	—	—

●For Remote Control Unit (CU-V150), refer to page 57.

CONTENTS

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7. REMOTE CONTROL UNIT (CU-V150) 57
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9. SPECIFICATIONS 61

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PIONEER ELECTRONIC [EUROPE] N.V. Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
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O -ZSO JUN 1995 printed in Japan

1. EXPLODED VIWES, PACKING AND PARTS LIST

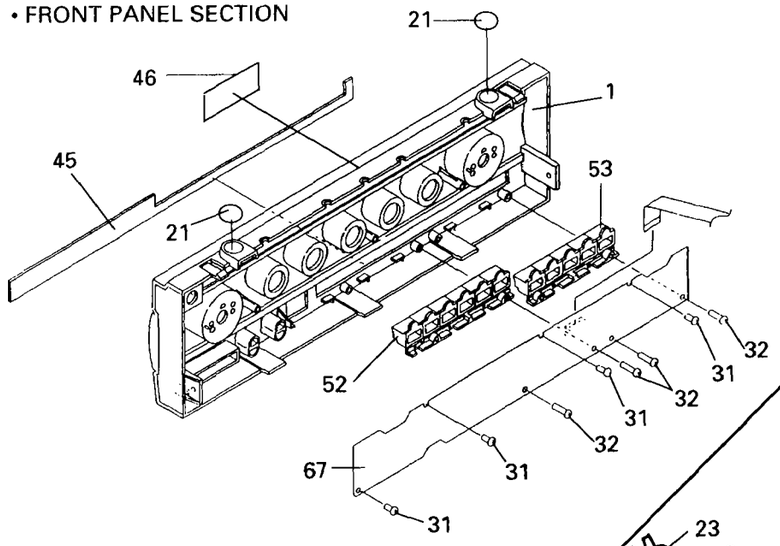
NOTES:

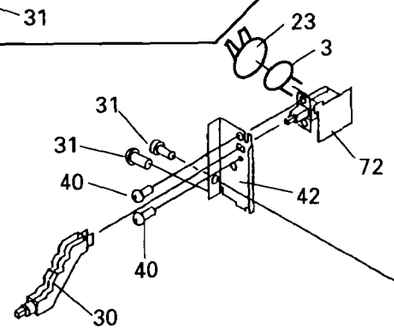
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by " ◉ " are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

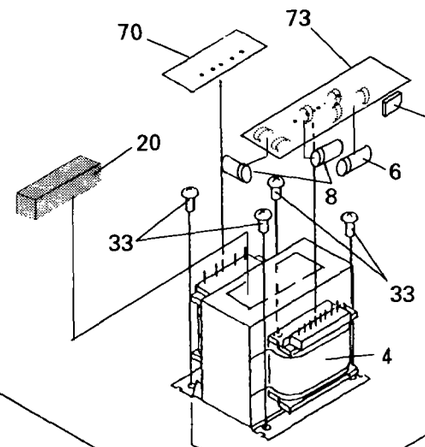
Parts List (for SA-V350/RL and SA-V300/RL)

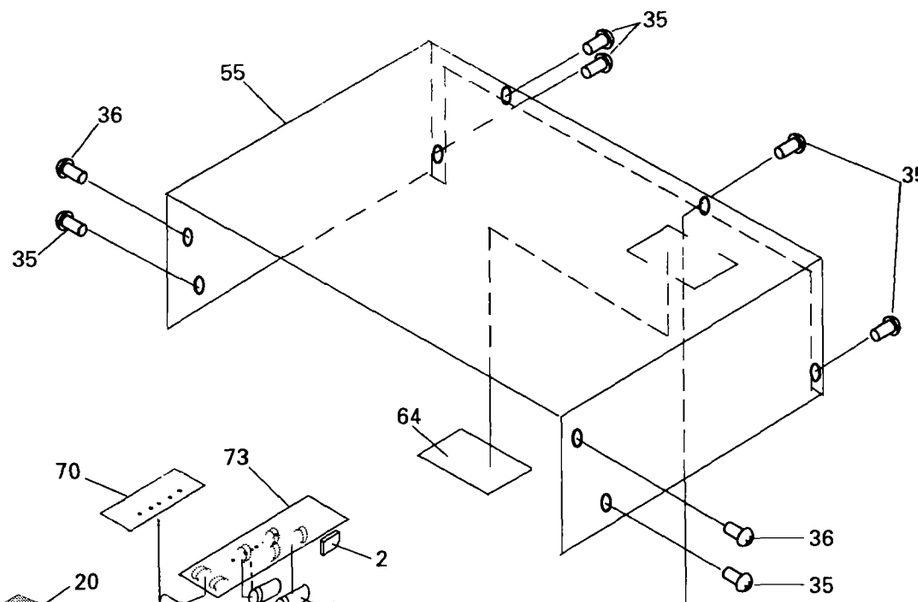
Mark	No.	Description	Parts No.
	1	FRONT PANEL (for SA-V350)	BMB1022
	1	FRONT PANEL (for SA-V300)	BMB1023
	2	D1601 DIODE (SA-V350 only)	D3SBA20
⚠	3	C301 (0.01/AC400)	ACG1003
⚠	4	POWER TRANSFORMER (for SA-V350)	BTS1001
⚠	4	POWER TRANSFORMER (for SA-V300)	BTS1002
	5	TERMINAL	AKE-039
⚠	6	FUSE FU6 (T160mA/250V)	AEK-501
⚠	7	FUSE FU7 (T400mA/250V)	AEK-504
⚠	8	FUSE FU4, FU5 (T1A/250V)	AEK-508
⚠	9	FUSE FU1, FU2 (T3.15A/250V) (for SA-V350))	AEK-513
⚠	9	FUSE FU1, FU2 (T2A/250V) (for SA-V300)	AEK-511
⚠	10	AC POWER CORD	ADG1127
	11	FLEXIBLE CABLE	ADD1131
	12	FLEXIBLE CABLE	ADD1132
	13	FAN MOTOR (for SA-V350)	AXM1022
	13	DC FAN MOTOR (for SA-V300)	AXM7003
	14	CHASSIS	BNA1096
	15	REAR PANEL	BNC1083
	17	FOOT (PLASTIC)	AEC-672
NSP	18	GROUND PLATE	ANK1155
NSP	19	GROUND PLATE	ANK1156
NSP	20	CUSHION (RUBBER)	AEB-317
	21	RUBBER SHEET	AEB1012
	22	NYLON BINDER	AEC-093
NSP	23	COVER	AEC-294
	24	BINDER	AEP-215
	25	PCB SPACER	AEC1570
	26	PCB SPACER	AEC1573
NSP	27	PCB MOLD	AMR2115
	28	PCB SPACER	BEC1103
	29	UNIT	BMR1063
	30	JOINT	BMR1064
	31	SCREW	ABA-298
	32	SCREW	ABA1024
	33	SCREW (STEEL)	ABA1184
	34	NUT	ABN-065
	35	SCREW	BBZ30P080FZK
	36	SCREW	BPZ30P060FZK
	37	SCREW	BPZ30P350FZK
	38	NUT	NK70FCU
	39	NUT	NK90FCU
	40	SCREW	PMZ30P060FMC
NSP	41	PANEL STAY	BND1072
NSP	42	SW STAY	BNG1197
NSP	43	SHIELD CASE(MET)	BNK1072
NSP	44	SHIELD COVER(MET)	BNK1073
	45	PVC PANEL	BAK1088
	46	PANEL	BAK1092
	47	PUSH KNOB(PLS)	AAD4086
	48	VOLUME KNOB L	BAB1005
	49	TONE VOLUME KNOB	BAB1006
	50	MIC VOLUME KNOB(PLS)	BAB1007
	51	MIC VOLUME KNOB(PLS)	BAB1008
	52	KEY CON TOP	BAD1085
	53	KEY CON TOP	BAD1087
	54	ECHO KNOB	BAD1089
	55	BONNET CASE	BNE1045
	56	OPERATING INSTRUCTIONS (English, Chinese)	BRA1107
	57	AC POWER CORD	ADE-044
	58	PACKING SHEET	AHG1038
	59	PAD A	BHA1101
	60	PAD B	BHA1102
	61	PACKING CASE (for SA-V350)	BHD1308
	61	PACKING CASE (for SA-V300)	BHD1309
	62	PAD C	BHA1103
NSP	63	SUB PLATE	BNF1025
NSP	64	BARRIER	AEC1023
	65	SCREW	ABA1009
	66	VOL ASS'Y	BWZ1524
	67	LED ASS'Y	BWZ1525
	68	CONNECT ASS'Y	BWZ1526
	69	POWER ASS'Y	BWZ1527
	70	TRANS 1 ASS'Y	BWZ1528
	71	AC ASS'Y	BWZ1529
	72	SW 1 ASS'Y	BWZ1544
	73	TRANS 2 ASS'Y	BWZ1523
	74	MIC ASS'Y	BWZ1530
	75	DSP ASS'Y	BWZ1532
	76	INPUT ASS'Y	BWZ1519
	77	CONTROL ASS'Y	BWZ1520
	78	VIDEO ASS'Y	BWZ1521
	79	SP ASS'Y	BWZ1522

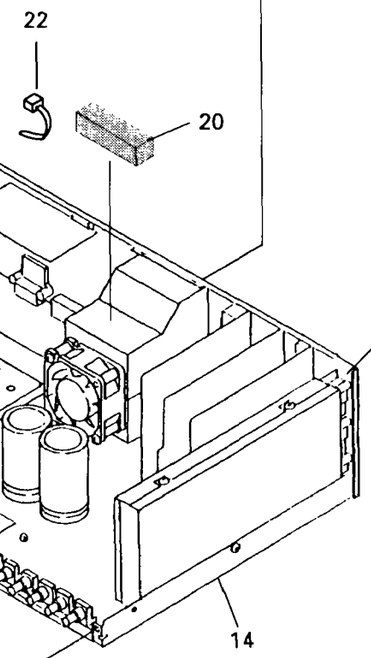
• FRONT PANEL SECTION

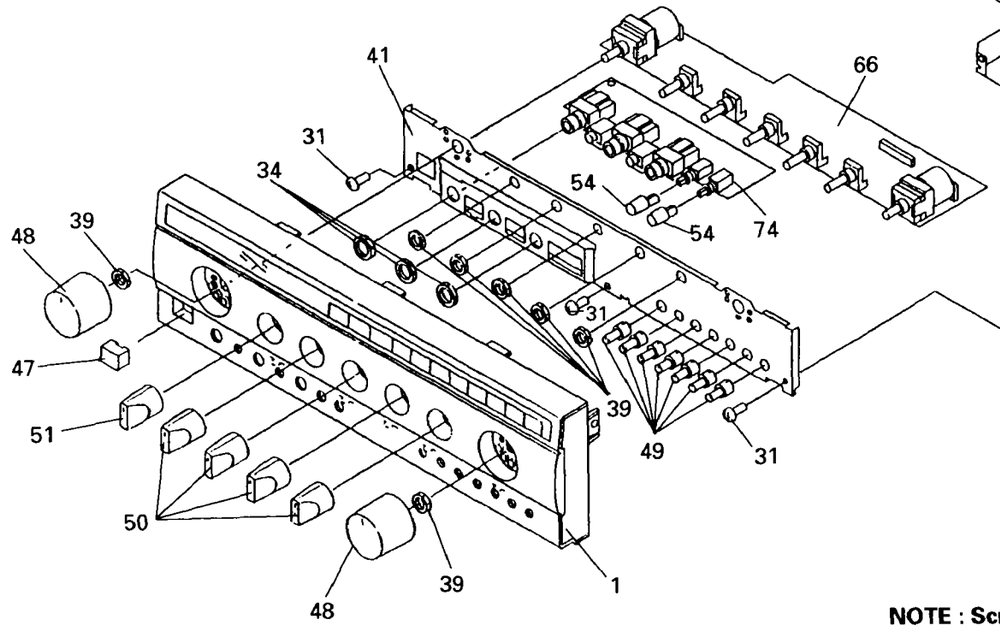






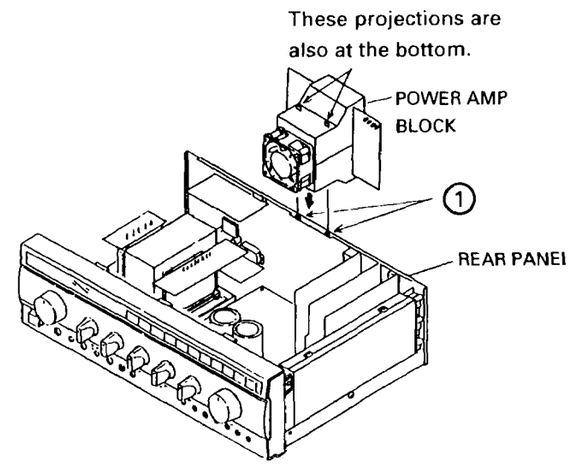




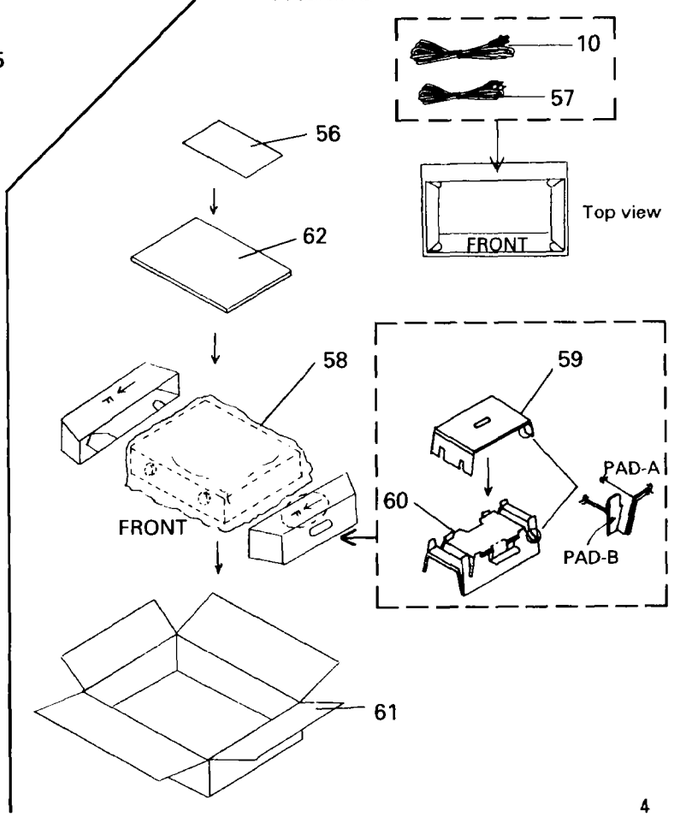


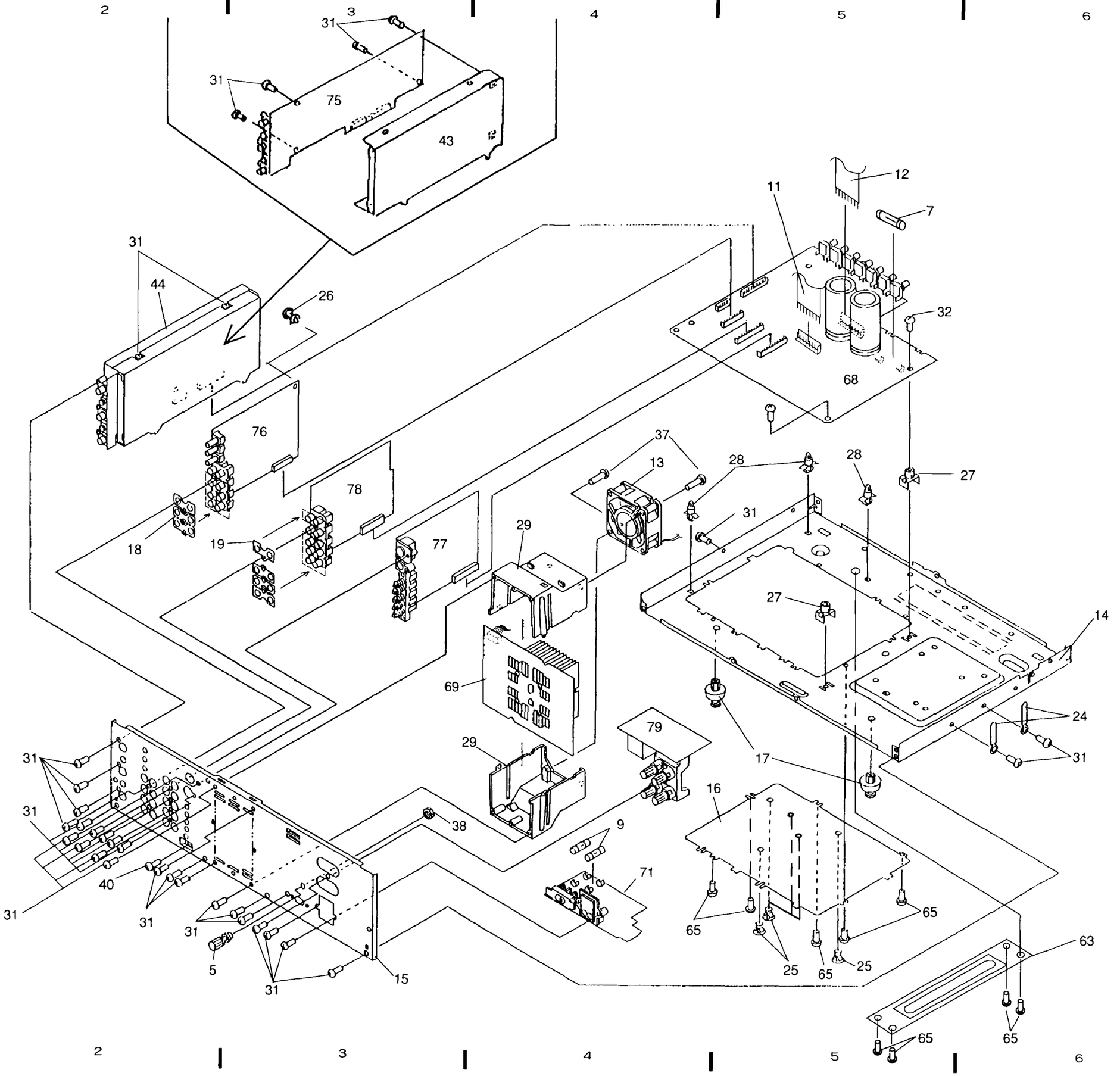
NOTE : Screws adjacent to ▼ mark on the product are used for disassembly.

Note:
When repairing the POWER AMP BLOCK, insert the projections at the bottom into the hole (1) of the rear panel.



• PACKING

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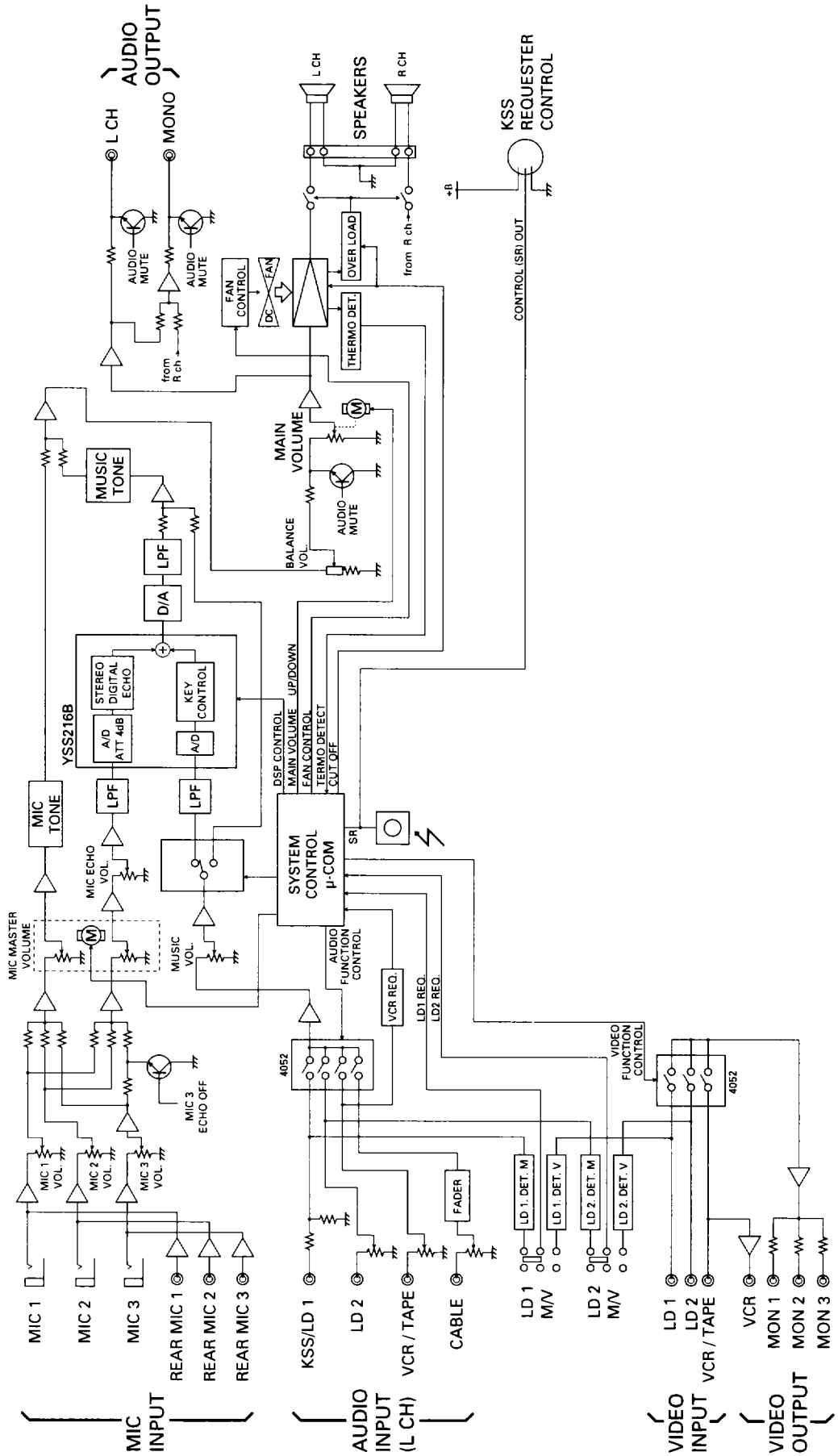
2. BLOCK DIAGRAM



3. SCHEMATIC AND PCB CONNECTION DIAGRAMS

NOTE FOR SCHEMATIC DIAGRAMS (Type 2A)

1. **When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".**

2. **Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.**

3. **RESISTORS:**
   Unit : k: k , M: M , or unless otherwise noted.
   Rated power : 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
   Tolerance : (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.

4. **CAPASITORS:**
   Unit : p:pF or μF unless otherwise noted.
   Ratings : capasitor (μF)/ voltage(V) unless otherwise noted.
   Rated voltage : 50V except for electrolytic capacitors.

5. **COILS:**
   Unit : m:mH or μH unless otherwise noted.

6. **VOLTAGE AND CURRENT:**
   ⎓ or ← V :
   DC voltage (V) at no input signal unless otherwise noted.
   ⇦ mA or ← mA :
   DC current at no input signal unless otherwise noted.

7. **OTHERS:**
   - ⊘ or ⊘ : Adjusting point.
   - ◀ : Measurement point.
   - The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.

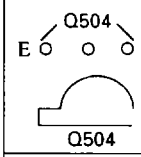
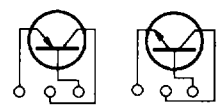
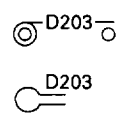
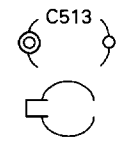
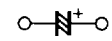
8. **SCH-□ ON THE SCHEMATIC DIAGRAM :**
   - SCH-□ indicates the drawing number of the schematic diagram.(SCH stands for schematic diagram.)

9. **SWITCHES (Underline indicates switch position) :**

CONTROL ASS'Y
S201: AUTO SIGNAL DETECTION
LD1/LD2 (VISUAL/AUDIO), LD1/LD2/VCR (HI/MID)
LED ASS'Y
S1201: ♭5
S1202: ♭1
S1203: ♯3
S1204: ♭4
S1205: ♮
S1206: ♯4
S1207: ♭3
S1208: ♯1
S1209: ♯5
S1210: ♭2
S1211: ♯2
AC ASS'Y
S501: VOLTAGE SELECTOR
SW 1 ASS'Y
S301: POWER
MIC ASS'Y
S1301: MIC 3 ECHO

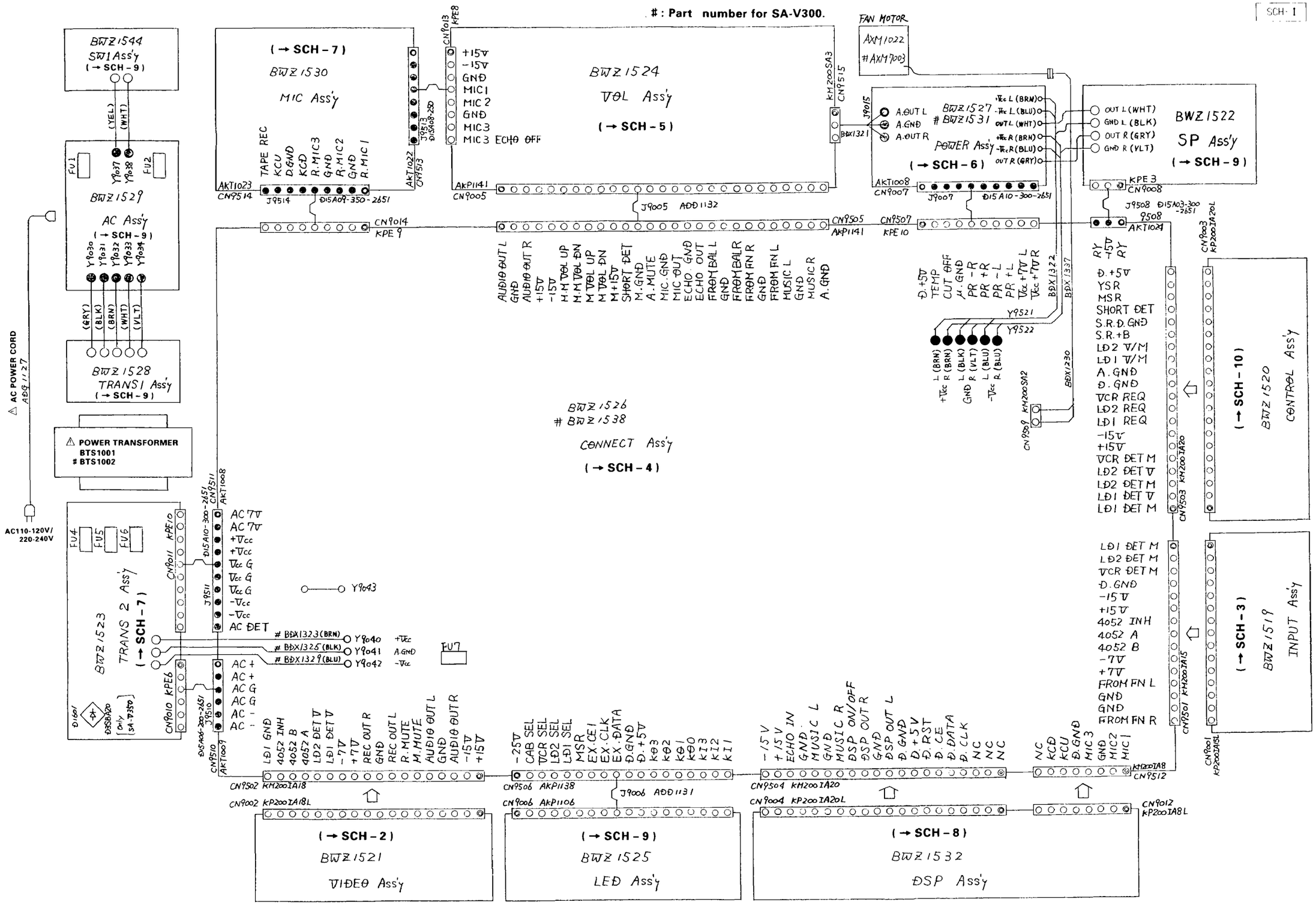
NOTE FOR PCB DIAGRAMS:

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

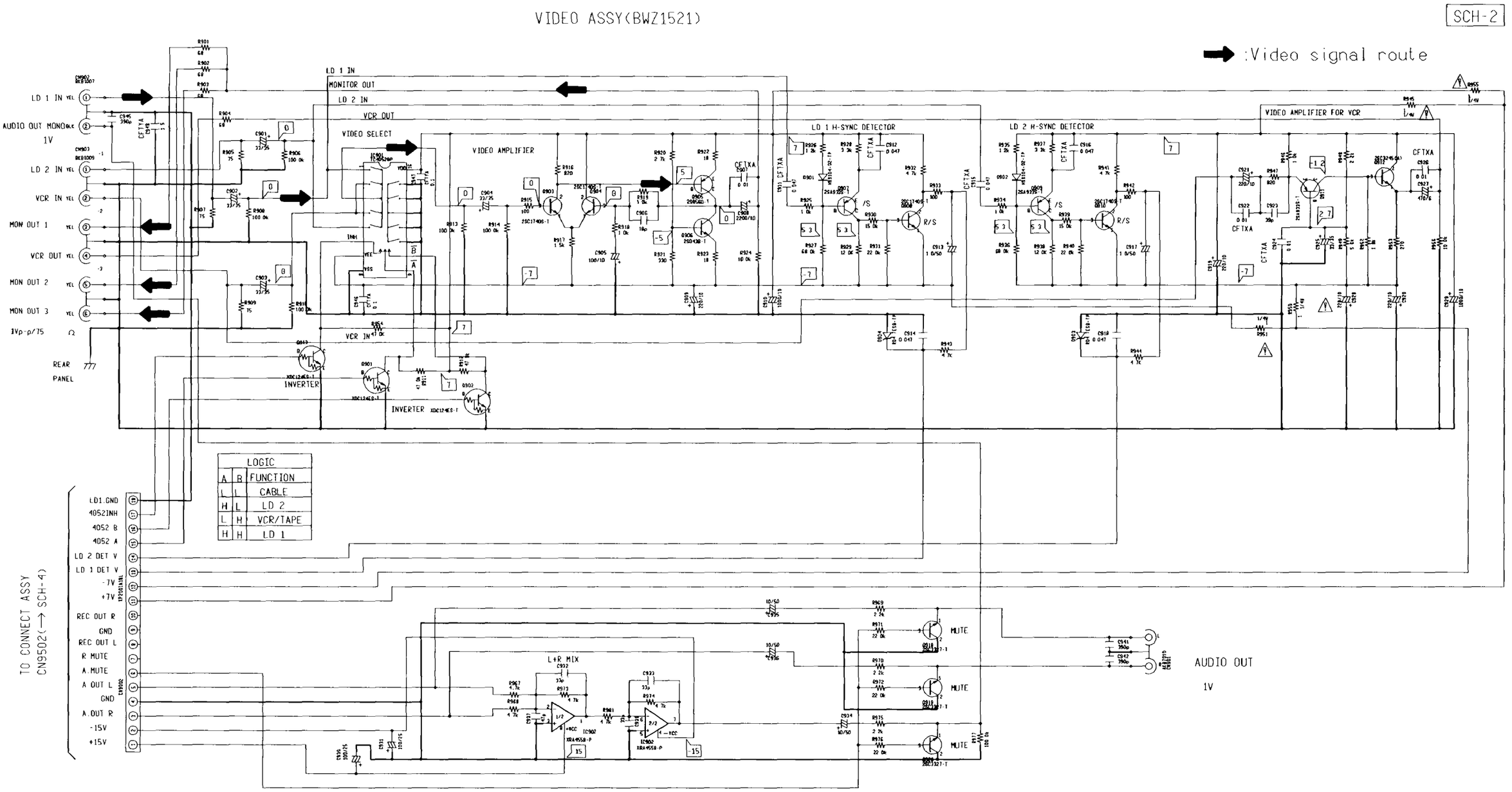
Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
		Transistor
		Diode
		Capacitor (Polarized)

3. The transistor terminal marked with E or ⊏ shows the emitter.
4. The diode terminal marked with ◎ or ⊂ shows cathode side.
5. The capacitor terminal marked with ◎ or ⊏ shows negative terminal.
6. The parts mounted on each PCB include all necessary parts for several destinations. For further information for respective destinations, be sure to check with the schematic diagram.

3-1 OVERALL WIRING DIAGRAM


: Part number for SA-V300.
SCH-1
BWZ1544 SW1 Ass'y (→ SCH-9)
(YEL) (WHT)
FU1 FU2
BWZ1529 AC Ass'y (→ SCH-9)
(GRY) (BLK) (BRN) (WHT) (VLT)
BWZ1528 TRANS1 Ass'y (→ SCH-9)
⚠ AC POWER CORD ADG1127
⚠ POWER TRANSFORMER BTS1001 # BTS1002
AC110-120V/ 220-240V
FU4 FU5 FU6
BWZ1523 TRANS 2 Ass'y (→ SCH-7)
D1061 D3SB60 (Only SA-V350)
(→ SCH-7)
BWZ1530 MIC Ass'y
TAPE REC KCU D.GND KCD R.MIC3 GND R.MIC2 GND R.MIC1
AKT1023 CN9514 J9514 D15A09-350-2651
AKT1022 CN9513 J9513 D15A08-250
CN9013 KPE8
+15V -15V GND MIC1 MIC2 GND MIC3 MIC3 ECHO OFF
BWZ1524 VOL Ass'y (→ SCH-5)
AKP1141 CN9005
J9005 ADD1132
KM200SA3 CN9515
J9015
BDX1321
FAN MOTOR AXM1022 # AXM1003
BWZ1527 # BWZ1531 POWER Ass'y (→ SCH-6)
A.OUT L A.GND A.OUT R
+Vcc L (BRN) -Vcc L (BLU) OUT L (WHT) +Vcc R (BRN) -Vcc R (BLU) OUT R (GRY)
AKT1008 CN9007 J9007 D15A10-300-2651
BWZ1522 SP Ass'y (→ SCH-9)
OUT L (WHT) GND L (BLK) OUT R (GRY) GND R (VLT)
KPE3 CN9008
J9508 D15A03-300-2651 9508 AKT1024
CN9003 KP200IA20L
CN9014 KPE9
CN9505 AKP1141
CN9507 KPE10
AUDIO OUT L GND AUDIO OUT R +15V -15V M.M VOL UP M.M VOL DN M VOL UP M VOL DN M+15V SHORT DET M.GND A.MUTE MIC.GND MIC OUT ECHO GND ECHO OUT FROM BAL L GND FROM BAL R FROM FN R GND FROM FN L MUSIC L GND MUSIC R A.GND
D.+5V TEMP CUT OFF μ.GND PR -R PR +R PR -L PR +L Vcc +TW L Vcc +TW R
BDX1322 BDX1337
Y9521 Y9522
L (BRN) R (BRN) +Vcc L (BLK) GND R (VLT) L (BLU) -Vcc R (BLU)
BDX1230
CN9508 KM200SA2
RY +15V RY
D.+5V YSR MSR SHORT DET S.R.D.GND S.R.+B LD2 V/M LD1 V/M A.GND D.GND VCR REQ LD2 REQ LD1 REQ -15V +15V VCR DET M LD2 DET V LD2 DET M LD1 DET V LD1 DET M
CN9503 KM200IA20
BWZ1526 # BWZ1538 CONNECT Ass'y (→ SCH-4)
(→ SCH-10) BWZ1520 CONTROL Ass'y
LD1 DET M LD2 DET M VCR DET M D.GND -15V +15V 4052 INH 4052 A 4052 B -7V +7V FROM FN L GND GND FROM FN R
CN9501 KM200IA15
(→ SCH-3) BWZ1519 INPUT Ass'y
CN9001 KP200IA15L
AC7V AC7V +Vcc +Vcc Vcc G Vcc G Vcc G -Vcc -Vcc AC DET
J9511 D15A10-300-2651 CN9511 AKT1008
CN9011 KPE10
Y9043
BDX1323 (BRN) Y9040 +Vcc
BDX1325 (BLK) Y9041 A.GND
BDX1329 (BLU) Y9042 -Vcc
FU7
AC+ AC+ AC G AC G AC- AC-
D15A06-200-2651 J9510 CN9510 AKT1009
CN9010 KPE6
LD1 GND 4052 INH 4052 B 4052 A LD2 DET V LD1 DET V -7V +7V REC OUT R GND REC OUT L R.MUTE M.MUTE AUDIO OUT L GND AUDIO OUT R -15V +15V
CN9502 KM200IA18
CN9002 KP200IA18L
(→ SCH-2) BWZ1521 VIDEO Ass'y
-25V CAB SEL VCR SEL LD2 SEL LD1 SEL MSR EX.CE! EX.CLK EX.DATA D.GND D.+5V K03 K02 K01 K00 K13 K12 K11
CN9506 AKP1138
CN9006 AKP1106
J9006 ADD1131
(→ SCH-9) BWZ1525 LED Ass'y
-15V +15V ECHO IN GND MUSIC L GND MUSIC R DSP ON/OFF DSP OUT R GND DSP OUT L D.GND D.+5V D.RST D.CE D.DATA D.CLK NC NC NC
CN9504 KM200IA20
CN9004 KP200IA20L
(→ SCH-8) BWZ1532 DSP Ass'y
NC KCD KCU D.GND MIC3 GND MIC2 MIC1
KM200IA8 CN9512
CN9012 KP200IA8L

3-2 VIDEO ASSY



SCH-3

INPUT ASSY(BWZ1519)

⇨ :Audio signal route

AUDIO INPUT

LD1 200mV/45k

LD2 200mV/44k

VCR/TAPE 200mV/44k

CABLE 200mV/44k

REAR PANEL

CM1001 AKB7022

BALANCE AMP

IC1001 UPC4570C

LD1 L+R

LD1 SELECT SENSITIBITY -60dBV:HIGH,-50dBV:MID

LD2 L+R

LD2 SELECT SENSITIBITY -60dBV:HIGH,-50dBV:MID

TAPE L+R

VCR/TAPE L+R

VCR/TAPE SELECT SENSITIBITY -60dBV:HIGH,-50dBV:MID

MIXER

IC1002 XRA4558-P

-6dB

100k

BUFFER

IC1003 XRA4558-P

IC1004 XRA4558-P

VCA IC1006 MS241L

SOURCE SELECTOR IC1007 TC4052BP

INVERTER Q1005 XEC124ES-T, Q1004 XEC124ES-T, Q1003 XEC124ES-T

MUTE Q1001 2SC1740S-T, Q1002 XRA124ES-T

D1002 HSS104-02-TP, D1001 HSS104-02-TP

LOGIC	
A	B	FUNCTION
L	L	CABLE
H	L	LD 2
L	H	VCR/TAPE
H	H	LD 1

CN9501 EP2001A15L

FROM FN R
GND
GND
FROM FN L
+7V
-7V
4052B
4052A
4052INH
+15V
-15V
D.GND
VCR/TAPE DETM
LD2 DET M
LD1 DET M

TO CONNECT ASSY CN9501(⟶ SCH-4)

3-4 CONNECT ASSY

TO POWER ASSY
+Vcc L,-Vcc L
+Vcc R,-Vcc R
(⟶ SCH-6)

TO SP ASSY
GND L,GND R

TO POWER ASSY
CN9007(⟶ SCH-6)

TO SP ASSY
CN9008(⟶ SCH-9)

TO CONTROL ASSY
CN9003(⟶ SCH-10)

TO INPUT ASSY
CN9001(⟶ SCH-3)

SCH-4

CONNECT ASSY
(BWZ1526:SA-V350)
(BWZ1538:SA-V300)

⇨ :Audio signal route

Y9040-Y9042 ; BWZ1526 ONLY

TO TRANS ASSY
CN9011(⟶ SCH-7)

AC DETECT

OVERLOAD DETECTOR

DC DETECTOR

PROTECTION

CUT OFF

LEVEL SHIFTER

BALANCE

MUSIC TONE

BASS

TREBLE

MIC TONE

FUT
T400mAL250V

FAN SPEED CONTROL

TO FAN MOTOR

DELAY

REPEAT

THERMAL PROTECTION

RESET

TAPE REC MUTE

A.MUTE

06.29:
OV DETECT of
D.+5V for
MICROCOMPUTER

PD5346A

TO TRANS 2 ASSY
CN9010(⟶ SCH-7)

TO MIC ASSY
CN9514(⟶ SCH-7)

TO DSP ASSY
CN9012(⟶ SCH-8)

TO LED ASSY
CN9006(⟶ SCH-9)

TO VIDEO ASSY
CN9002(⟶ SCH-2)

TO VOL ASSY
CN9005(⟶ SCH-5)

TO DSP ASSY
CN9004(⟶ SCH-8)

	SA-V350	SA-V300
C632,C633	12000/63	8200/56
R639	220Ω 3W	150Ω 3W
R1458	15k	12k

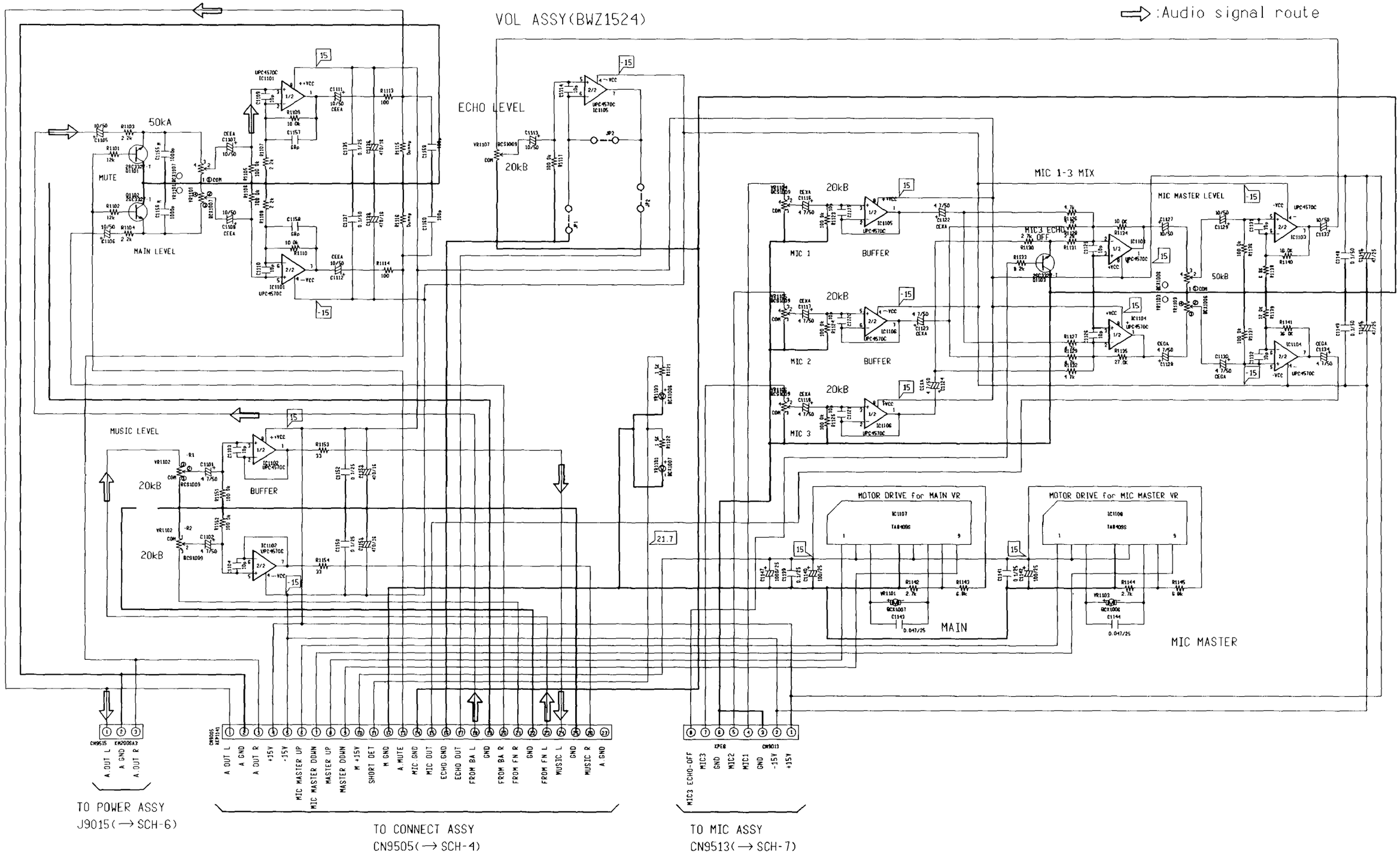
Voltages for SA-V300.

3-5 VOL ASSY

SCH-5

⇨ :Audio signal route

VOL ASSY(BWZ1524)



3-6 POWER ASSY

SCH-6

POWER ASSY
(BWZ1527:SA-V350)
(BWZ1531:SA-V300)

BIAS THERMAL COMPENSATION
D111,113,115
Q119

:Audio signal route

TO CONNECT ASSY
+VCC L
(⟶SCH-4)

TO SP ASSY
OUT L
(⟶SCH-9)

TO CONNECT ASSY
+VCC R
(⟶SCH-4)

TO SP ASSY
OUT R
(⟶SCH-9)

+VCC L

OUT L

+VCC R

OUT R

BIAS CUT OFF

CURRENT LIMITTER

THERMAL DETECTOR

RN1/4PC

BIAS CUT OFF

Voltage value with # is SA-V350

*

	SA-V350	SA-V300
Q139,Q140	IRF640	IRF530
R119,R120	1k	1.2k
R175,R176,R181,R182	3.3k	2.2k

BDX1321

A.OUT L | GND | A.OUT R

TO VOL ASSY
CN9515(⟶SCH-5)

CN9007
AKT1008

D15A10-300-2651
J9007

+5V | TEMP | CUT OFF | u-GND | PR.R- | PR.R+ | PR.L- | PR.L+ | VCC+7 L | VCC+7 R

TO CONNECT ASSY
CN9507(⟶SCH-4)

-VCC L | -VCC R

TO CONNECT ASSY
-VCC L,-VCC R
(⟶SCH-4)

POWER ASSY

SCH-6

POWER ASSY

SCH-6

SCH-7

MIC ASSY(BWZ1530)

TO CONNECT ASSY
CN9514(⟶ SCH-4)

R.MIC1 GND R.MIC2 GND R.MIC3 KC.D D.GND KC.U TAPE REC

CN9514 AKT1023 J9514 D15A09-350-2651

S1301 ASG1026

MIC3 ECHO OFF

MIC1 Keycon

0V/3.3K

MIC2 Keycon

HJ1304 AKM-210

HJ1305 AKM-210

AMK1181 1301 MIC1 HJ1301 AKM1010

AMK1181 1302 MIC2 HJ1302 AKM1010

AMK1181 1303 MIC3 HJ1303 AKM1010

IC1301 UPC4570G2-TF

IC1302 UPC4570G2-TF

25dB

MIC INPUT
2.0mV/25K

TO VOL ASSY
CN9013(⟶ SCH-5)

+15V
-15V
GND
MIC 1
MIC2
GND
MIC3
MIC3 ECHO OFF

J9513 D15A08-250-2651

TRANS 2 ASSY(BWZ1523)

TO CONNECT ASSY
CN9510(⟶ SCH-4)

CN9010 KPE6

AC(15V) AC(15V) AC G AC G AC(15V) AC(15V)

POWER TRANSFORMER

± 15V

TO CONNECT ASSY
CN9511(⟶ SCH-4)

CN9011 KPE10

AC(7V) AC(7V) +Vcc +Vcc Vcc G Vcc G Vcc G -Vcc -Vcc AC DET

+7V

± Vcc

RBV602

D1601 :
SA-V350 ONLY

MIC AND TRANS 2 ASSY

SCH-7

MIC AND TRANS 2 ASSY

SCH-7

⇨:Audio signal route

DSP ASSY(BWZ1532)

MIC 1 IN

MIC 2 IN

MIC 3 IN

Q701-Q703
IMPEDANCE CONVERSION

MIC1
MIC2
GND
MIC3
D GND
KCU
KCD
NC

TO CONNECT ASSY
CN9512(→SCH-4)

MIC1 Keycon

MIC2 Keycon

MIC

LOW PASS FILTER

L

R

DSP/BYPASS
SELECT

LOGIC		
A	B	DSP
L	L	NO
H	H	YES

DSP
IC701
YSS168

DRAM

ANALOG
FILTER

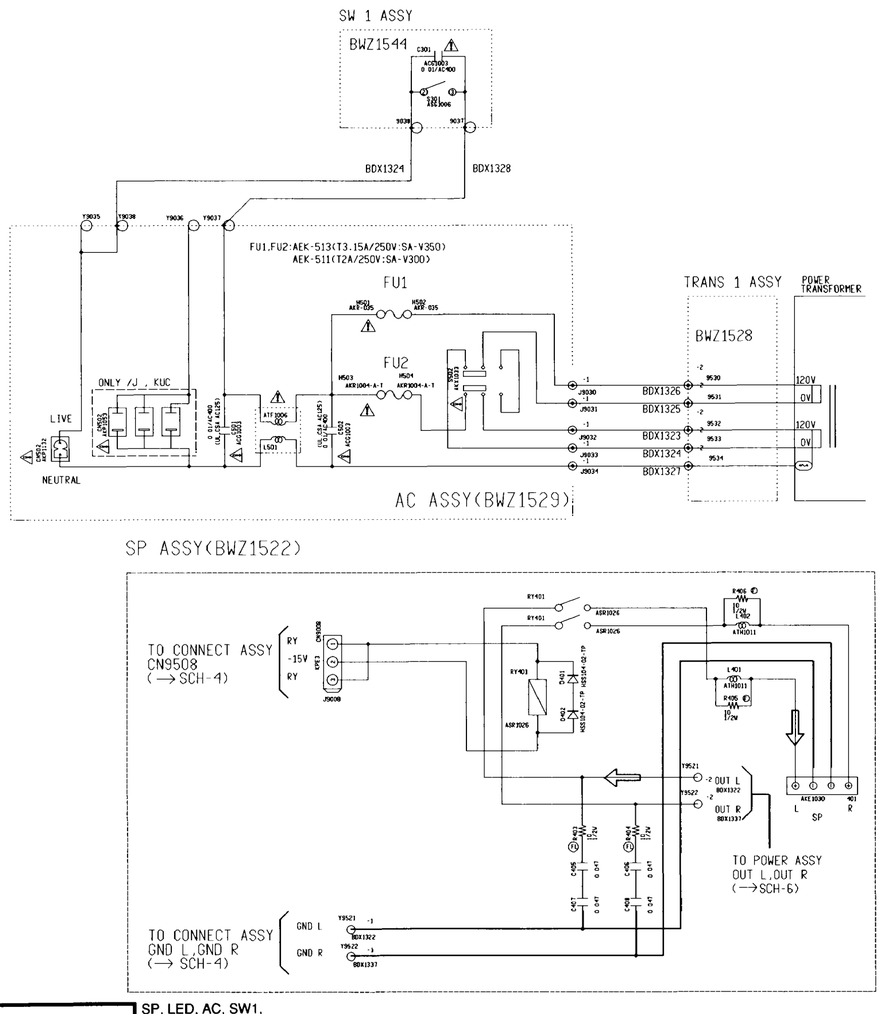
D/A CONVERTER

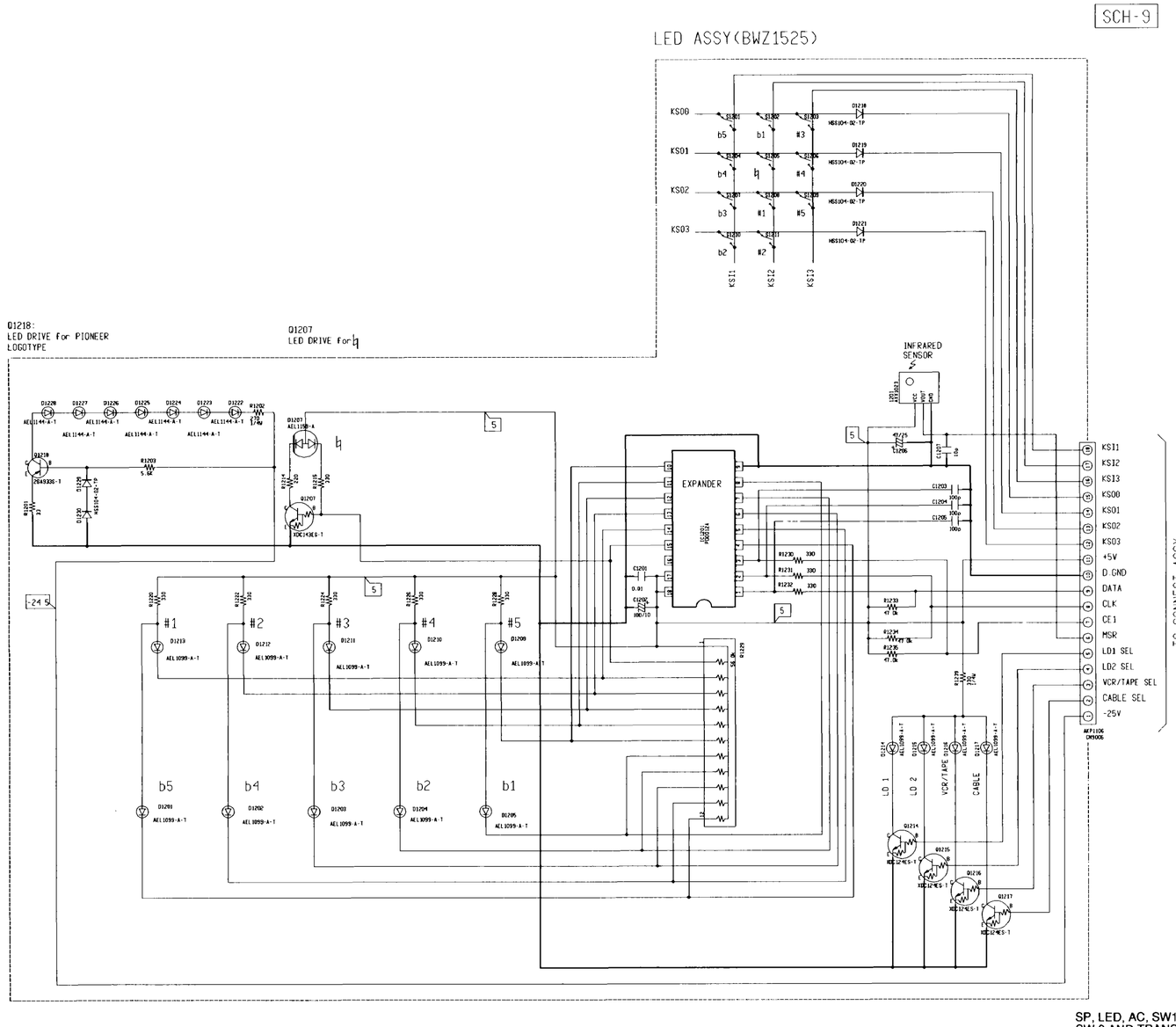
16.9MHz

-15V
+15V
ECHO IN
GND
MUSIC L
GND
MUSIC R
DSP ON/OFF
DSP OUT R
GND
DSP OUT L
D GND
D +5V
D RST
D CE
D DATA
D CLK
NC
NC
NC

TO CONNECT ASSY
CN9504(← SCH-4)

3-9 SP, LED, AC, SW 1, SW 2 AND TRANS 1 ASSY





3-10 CONTROL ASSY

CONTROL ASSY(BWZ1520)

SCH-10

TO CONNECT ASSY
CN9503(→ SCH-4)

LD 1 DET M
LD 1 DET V
LD 2 DET M
LD 2 DET V
VCR DET M
+15V
-15V
LD 1 REQ
LD 2 REQ
VCR REQ
D.GND
A.GND
LD 1 V/M
LD 2 V/M
S R +B
S.R D GND
SHORT DET
MSR
YSR
D +5

LD1 DETECT

LD2 DETECT

VCR/TAPE DETECT

POWER SUPPLY FOR SONG REQUESTOR

LD 1

AUTO FUNCTION CONTROL

LD 2 VIDEO/MUSIC

to SONG REQUESTOR
(DIN 5P soket)

GND

SR OUT

SATELLITE REMOTE IN
(4P MINI DIN socket)

LED DRIVE

SR AMP

SR BUFFER

CONTROL ASSY

SCH-10

CONTROL ASSY

SCH-10

4. PCB PARTS LIST
(for SA-V350/RL and SA-V300/RL)

NOTES:

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by " ◉ " are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohms and 47k ohms (Tolerance is shown by J = 5%, and K =10%).

560Ω → 56×10¹ → 561 ---------- RD1/8PM 5 6 1 J
47kΩ → 47×10³ → 473 ---------- RD1/4PS 4 7 3 J
0.5Ω → 0R5 ---------- RN2H 0 R 5 K
1Ω → 010 ---------- RS1P 0 1 0 K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62kΩ → 562×10¹ → 5621 ---------- RN1/4PC 5 6 2 1 F

Mark	No.	Description	Parts No.
LIST OF ASSEMBLIS			
NSP		COMPLEX A ASS'Y	BWK1016
		├ INPUT ASS'Y	BWZ1519
		├ CONTROL ASS'Y	BWZ1520
		├ VIDEO ASS'Y	BWZ1521
		├ SP ASS'Y	BWZ1522
		├ VOL ASS'Y	BWZ1524
		└ LED ASS'Y	BWZ1525
NSP		MAIN ASS'Y	BWK1017
		├ CONNECT ASS'Y (for SA-V350)	BWZ1526
		├ CONNECT ASS'Y (for SA-V300)	BWZ1538
		├ POWER ASS'Y (for SA-V350)	BWZ1527
		├ POWER ASS'Y (for SA-V300)	BWZ1531
		├ TRANS 1 ASS'Y	BWZ1528
		├ AC ASS'Y	BWZ1529
		└ SW 1 ASS'Y	BWZ1544
NSP		COMPLEX B ASS'Y	BWK1019
		├ TRANS 2 ASS'Y	BWZ1523
		├ MIC ASS'Y	BWZ1530
		└ DSP ASS'Y	BWZ1532

INPUT ASS'Y

SEMICONDUCTORS		
	IC1006	M5241L
	IC1007	TC4052BP
	IC1001 ,IC1005	UPC4570C
	IC1002-IC1004	XRA4558-P
	Q1001	2SC1740S
	Q1002	XDA124ES
	Q1003 -Q1005	XDC124ES
	D1001 ,D1002	HSS104-02
CAPACITORS		
	C1025 ,C1026	CCCSL100D50
	C1033 ,C1036	CCCSL181J50
	C1049 -C1054	CCCSL330J50
	C1005 ,C1006	CCCCH040C50
	C1061 -C1068	CCMSL270J50
	C1055 -C1058	CEAS100M50
	C1017 -C1020	CEAS2R2M50
	C1032 ,C1035	CEAS330M35
	C1042	CEAS330M50
	C1038 ,C1039	CEAS470M25
	C1040 ,C1041	CEAS471M16
	C1023 ,C1024	CEEA010M50
	C1027 ,C1028	CEEA100M25
	C1009 ,C1010 ,C1013 ,C1014 ,C1057	CEEA100M50
	C1058	CEEA100M50
	C1021 ,C1022	CEEA2R2M50
	C1003 ,C1004	CEEA471M16
	C1046 ,C1047	CFTYA104J50
	C1007 ,C1008 ,C1011 ,C1012	CKCYB391K50
	C1015 ,C1016	CKCYB391K50
	C1059	CKCYF473Z50
	C1001 ,C1002	CKMYB391K50
RESISTORS		
	R1062 ,R1063	RD1/2PM331J
	R1066 ,R1067	RD1/2PMFL181J
	VR1001-VR1003 (100k-B x2)	ACS1109
	Other Resistors	RD1/8PM□□□J
OTHERS		
	CN1001 PIN JACK(8P)	AKB7022
	CN9001 15P SOCKET	KP200IA15L

CONTROL ASS'Y

SEMICONDUCTORS		
	IC201 -IC203	XRA4558-P
	Q206 -Q208 ,Q210 ,Q212	2SC1740S
	Q211	2SC2235
	Q209	2SD1276A
	Q205	XDA143ES
	Q201 -Q203	XDC124ES
	Q204	XDC143ES
	D201 -D209 ,D211 ,D213 ,D214	HSS104-02
	D218	RD11ESB
	D210	RD5.1ESB
	D215	S5688G
SWITCH		
	S201	SUJ4L22222S
CAPACITORS		
	C207 -C209	CCCSL330J50
	C228	CEAS100M50
	C229	CEAS101M10
	C219 ,C220 ,C227	CEAS101M25

Mark	No.	Description	Parts No.
	C204		CEAS330M25
	C225		CEAS331M16
	C214 -C218		CEAS3R3M50
	C223 ,C224		CEAS470M25
	C226		CEAS471M10
	C210 -C212		CKCYB332K50
	C201 -C203		CKCYF223Z50
	C205 ,C206		CKCYX104M16
	C221		CQMA472J50
RESISTORS			
	R235		RD1/2PM102J
	R239		RD1/2PM1R5J
	R245		RD1/2PM391J
	R244		RD1/2PM470J
	Other Resistors		RD1/8PM□□□J
OTHERS			
	SOCKET		AKP-081
	CN201 SOCKET		AKP1016
	CN9003 20P SOCKET		KP200IA20L

VIDEO ASS'Y

SEMICONDUCTORS			
	IC901		TC4052BP
	IC902		XRA4558-P
	Q907 ,Q909 ,Q911		2SA933S
	Q905		2SB560
	Q903 ,Q904 ,Q908 ,Q910		2SC1740S
	Q912		2SC3245
	Q918 -Q920		2SC3327
	Q906		2SD438
	Q901 ,Q902 ,Q913		XDC124ES
	D901 ,D902		HSS104-02
	D903 ,D904		RD4.7ESB
CAPACITORS			
	C906		CCCSL180J50
	C932 ,C933 ,C938		CCCSL330J50
	C923		CCCSL390J50
	C937		CCCSL470J50
	C913 ,C917		CEAS010M50
	C934 -C936		CEAS100M50
	C905		CEAS101M10
	C910 ,C929		CEAS102M10
	C909 ,C919 -C921 ,C928		CEAS221M10
	C908		CEAS222M10
	C901 -C904 ,C925		CEAS330M35
	C927		CEAS471M6
	C930 ,C931		CEXA101M25
	C907 ,C922 ,C924 ,C926		CFTXA103J50
	C911 ,C912 ,C915 ,C916		CFTXA473J50
	C946 ,C947		CFTYA104J50
	C948		CFTYA155J50
	C941 ,C942 ,C945		CKCYB391K50
	C914 ,C918		CKCYF473Z50
RESISTORS			
	R945 ,R950 ,R951 ,R955		RD1/4PM010J
	Other Resistors		RD1/8PM□□□J
OTHERS			
	CN901 2P PIN JACK		AKB7010
	CN902 PIN JACK(2P)		BKB1007
	CN903 PIN JACK(6P)		BKB1009
	CN9002 18P SOCKET		KP200IA18L

Mark	No.	Description	Parts No.

SP ASS'Y

SEMICONDUCTORS			
	D401 ,D402		HSS104-02
COILS			
	L401 ,L402 (0.7μH)		ATH1011
RELAY			
	RY401		ASR1026
CAPACITORS			
	C405 -C408		CFTXA473J50
RESISTORS			
	R403 -R406		RD1/2PMFL100J
OTHERS			
	SPEAKER TERMINAL 4-P		AKE1030
	CN9008 CONNECTOR(3P)		KPE3

VOL ASS'Y

SEMICONDUCTORS			
	IC1107 ,IC1108		TA8409S
	IC1101 ,IC1102,IC1103-IC1106		UPC4570C
	Q1101 -Q1103		2SC3327
CAPACITORS			
	C1119 -C1121		CCCCH100D50
	C1159 ,C1160		CCCSL101J50
	C1103 ,C1104 ,C1109 ,C1110 ,C1114		CCCSL100D50
	C1125 ,C1126 ,C1131 ,C1132		CCCSL100D50
	C1157 ,C1158		CCCSL680J50
	C1105 ,C1106 ,C1113		CEAS100M50
	C1116 -C1118 ,C1122 -C1124		CEXA4R7M50
	C1127 -C1129 ,C1133		CEAS100M50
	C1128,C1130,C1134		CEGA4R7M50
	C1140 ,C1142		CEAS101M25
	C1147		CEAS102M25
	C1145 ,C1146		CEAS470M25
	C1136 ,C1138 ,C1151 ,C1153		CEAS471M16
	C1101 ,C1102		CEAS4R7M50
	C1107 ,C1108 ,C1111 ,C1112		CEEA100M50
	C1135 ,C1139 ,C1141 ,C1150		CKCYX104M25
	C1152		CKCYX104M25
	C1143 ,C1144		CKCYX473M25
	C1137 ,C1148 ,C1149		CKPUYF104Z50
	C1155 ,C1156		CQMA102J50
RESISTORS			
	VR1102,VR1104-VR1107 (20k-B x2)		BCS1009
	VR1103 (50k-B x2)		BCX1006
	VR1101 (50k-A x2)		BCX1007
	Other Resistors		RD1/8PM□□□J
OTHERS			
	CN9005 27P SOCKET		AKP1141
	CN9013 CONNECTOR(8P)		KPE8

LED ASS'Y

SEMICONDUCTORS			
	IC1201		PD0012A
	Q1218		2SA933S
	Q1214 -Q1217		XDC124ES
	Q1207		XDC143ES
	D1201 -D1205 ,D1209 -D1217 LED (RED)		AEL1099
	D1222 -D1228 LED (GREEN)		AEL1144
	D1207 LED (RED/GREEN)		AEL1159
	D1218 -D1221 ,D1229 ,D1230		HSS104-02

Mark	No.	Description	Parts No.
SWITCHES			
	S1201 -S1211		ASG1034
CAPACITORS			
	C1207		CCCSL100D50
	C1206		CEAS470M25
	C1202		CEJA101M10
	C1201		CKCYF103Z50
	C1203 -C1205		CKPUYB101K50
RESISTORS			
	R1229		RA11T563J
	R1202		RD1/4PM271J
	R1239		RD1/4PM331J
	Other Resistors		RD1/8PM□□□J
OTHERS			
	CN9006	18P SOCKET	AKP1106
	REMOTE RECEIVER UNIT		AXX1023

CONNECT ASS'Y

SEMICONDUCTORS			
	IC608		M51951BSL
	IC605		NJM7805FAS
	IC607		NJM7915FAS
	IC604		PD5346A
	IC606		UPC2415HF
	IC603		UPC4570G2
	Q603 ,Q620 ,Q622 ,Q628		2SA1048
	Q609		2SA1115
	Q602 ,Q612		2SA965
	Q607 ,Q608		2SC1740S
	Q605 ,Q606 ,Q611		2SC1845
	Q601		2SC2235
	Q604		2SD1835
	Q625 ,Q626		DTA143EK
	Q623 ,Q624		DTC143EK
	Q615 ,Q629		XDA124ES
	Q610		XDC124EK
	Q618		XDC124ES
	Q627		XDC143ES
	D601		D3SBA20
	D608 ,D612 ,D615 ,D617 ,D619		HSS104-02
	D621 -D624 ,D627 -D629		HSS104-02
	D626		RD12ESB2
	D614		RD4.7ESB
	D630		RD5.1ESB
	D610 ,D611		RD8.2ESB2
	D603 -D606		S5688G
COILS			
	F601 ,F602		ATF1108
	L607		ATX1012
	L606		LAU221J
CAPACITORS			
	C631	(4700/35)	ACH1021
	C632 ,C633	(12000/63 : for SA-V350)	ACH1108
	C632 ,C633	(8200/56 : for SA-V300)	ACH-238
	C667		CCCCH101J50
	C671		CCSQCH101J50
	C663 ,C664		CCSQSL101J50
	C617 ,C618		CCSQSL150J50
	C659 ,C660		CEANPR22M50
	C611 ,C612 ,C682 -C684		CEAS100M50
	C626		CEGA4R7M50
	C650 ,C651 ,C669		CEAS101M10
	C647 ,C648 ,C670		CEAS101M25
	C639		CEAS101M35
	C672		CEAS1R5M50
	C644		CEAS221M25
	C638 ,C656 ,C657		CEAS331M10
	C630		CEAS332M35
	C619 ,C620 ,C675 ,C676		CEAS470M25
	C665		CEAS471M6
	C680		CEJA010M50
	C654 ,C655		CFTYA103J50
	C601 ,C602 ,C636 ,C637 ,C642		CFTYA474J50
	C643		CFTYA474J50
	C681		CKCYB102K50
	C641 ,C668		CKCYX104M16
	C640		CKCYX104M25
	C658		CKSQYB103K50
	C685 ,C686		CKSQYF104Z25
	C662 ,C666 ,C673 ,C674		CKSQYF473Z25
	C613 ,C614 ,C624		CQMA122J50
	C607 ,C608 ,C677		CQMA123J50
	C627 ,C628		CQMA333K250
	C609 ,C610 ,C623		CQMA473J50
	C615 ,C616 ,C625		CQMA562J50
RESISTORS			
	R648 ,R649		RD1/2PM102J
	R1458	(for SA-V350)	RD1/2PM153J
	R1458	(for SA-V300)	RD1/2PM123J
	R693		RD1/2PM181J
	R659 ,R661		RD1/4PMF122J
	R651 ,R652		RD1/8PM101J
	R1454 -R1457 ,R669 ,R670		RD1/8PM102J
	R654		RD1/8PM104J
	R666		RD1/8PM153J
	R1451 ,R602		RD1/8PM472J
	R656		RD1/8PM473J
	R694		RD1/8PM561J
	R603		RD1/8PM822J
	R643 ,R645		RFA1/4PS270J
	R678		RFA1/4PS4R7J
	R634		RS1LMF1R8J
	R635		RS2LMF4R7J
	R684		RS2LMF562J
	R639	(for SA-V350)	RS3LMF221J
	R639	(for SA-V300)	RS3LMF151J
	R601		RS3LMF271J
	VR605	(20k)	BCS1007
	VR606 ,VR607	(20k)	BCS1008
	VR603 ,VR604	(100k-A)	BCS1010
	VR601 ,VR602	(100k-A)	BCS1011
	Other Resistors		RS1/10S□□□J
OTHERS			
	SCREW		ABA-298
	CN9506	18P SOCKET	AKP1138
	CN9505	27P SOCKET	AKP1141
	HEAT SINK		ANH-575
	X601	CERAMIC RESONATOR (8.00MHz)	ASS1015
	LEAD WIRE		BDX1322
	LEAD WIRE		BDX1337
	CN9501	15P PLUG	KM200IA15
	CN9502	18P PLUG	KM200IA18
	CN9503,CN9504	20P PLUG	KM200IA20
	CN9512	8P PLUG	KM200IA8
	CN9507	CONNECTOR(10P)	KPE10
	CN9514	CONNECTOR(9P)	KPE9

POWER ASS'Y

SEMICONDUCTORS			
	Q109 ,Q110 ,Q115 ,Q116		2SA1145

Mark	No.	Description	Parts No.
	Q113 ,Q114		2SA970
	Q133 -Q136		2SC1740S
	Q101 -Q104		2SC1845
	Q105 ,Q106		2SC2240
	Q111 ,Q112 ,Q117 ,Q118		2SC2705
	Q121 ,Q122 ,Q125 ,Q126		2SC2705
	Q107 ,Q108		2SK373
	Q119 ,Q120		HN1C01F
	Q139 -Q142	(for SA-V350)	IRF640
	Q139 -Q142	(for SA-V300)	IRF530
	Q137 ,Q138		XDA124ES
	Q143		XDC143ES
	D101 -D104 ,D109 -D120		HSS104-02
	D107 ,D108		MA700A
	D121		RD10ESB
	TH101 ,TH102	CHIP THERMISTER (NEGATIVE)	TBPS1R104K
CAPACITORS			
	C109 ,C110		CEAS100M50
	C123 -C126		CEAS220M100
	C113 ,C114 ,C119 -C122		CEAS470M25
	C105 ,C106		CEEA471M16
	C103 ,C104		CEGA4R7M50
	C115 -C118 ,C127 -C130		CFTYA474J50
	C111 ,C112		CKSQYF104Z50
	C101 ,C102		CQMA152J50
	C107 ,C108		CQPA821J100
RESISTORS			
	R185 -R188	(0.22, 5W)	BCN1023
	R121 ,R122		RD1/4PM333J
	R127 ,R128		RD1/4PMF333J
	R119 ,R120	(for SA-V350)	RD1/8PM102J
	R119 ,R120	(for SA-V300)	RD1/8PM122J
	R103 ,R104		RD1/8PM104J
	R139 -R142		RD1/8PM121J
	R115 ,R116		RD1/8PM152J
	R145 ,R146		RD1/8PM332J
	R101 ,R102		RD1/8PM391J
	R165		RD1/8PM392J
	R111 -R114		RD1/8PM471J
	R105 ,R106		RD1/8PM473J
	R149 ,R150 ,R169 -R172		RD1/8PM561J
	R107 -R110		RD1/8PM562J
	R189 ,R190		RN1/4PC1002F
	VR101 ,VR102		VRTS6VS221
	Other Resistors		RS1/10S□□□J
OTHERS			
	SCREW		BBZ30P080FZK
	LEAD WITH HOUSING		BDX1321

TRANS 1 ASS'Y

TRANS 1 assembly has no service part .

AC ASS'Y

COIL			
⚠	L501	(0.3mH/270V)	ATF1006
SWITCH			
⚠	S501		AKX1033
CAPACITORS			
⚠	C501 ,C502	(0.01/400)	ACG1003
OTHERS			
⚠	CN502	AC INLET(1P)	AKP1132
⚠	H501 ,H502	FUSE HOLDER	AKR-035

Mark	No.	Description	Parts No.

SW 1 ASS'Y

SWITCH			
	S301		ASG1006
CAPACITORS			
⚠	C301	(0.01/400)	ACG1003

TRANS 2 ASS'Y

SEMICONDUCTORS			
	D1602 -D1605		HSS104-02
	D1606		RBV602
CAPACITORS			
	C1601		CQMA473K250
OTHERS			
	H1601 ,H1602 ,H1605 ,H1606	(FUSE HOLDER)	AKR-035
	CN9011	CONNECTOR(10P)	KPE10
	CN9010	CONNECTOR(6P)	KPE6

MIC ASS'Y

SEMICONDUCTORS			
	IC1301,IC1302		UPC4570G2
SWITCHES			
	S1301		ASG1026
CAPACITORS			
	C1311 ,C1319 ,C1327		CCCSL100D50
	C1313 ,C1321 ,C1329		CCPUSL100J50
	C1309 ,C1317 ,C1325		CCSQSL221J50
	C1332 ,C1333		CEAS471M16
	C1314 ,C1322 ,C1330		CEGA4R7M50
	C1310 ,C1318 ,C1326		CFTYA124J50
	C1315 ,C1323 ,C1331		CFTYA154J50
	C1335 ,C1336		CFTYA474J50
	C1306 ,C1307		CKCYB103K50
	C1340 ,C1341		CKCYX104M25
	C1337		CKCYX473M25
	C1338 ,C1339		CKPUYF104Z50
	C1308 ,C1316 ,C1324		CKSQYB102K50
	C1301 ,C1302		CKSQYB103K50
	C1303 -C1305 ,C1345 -C1347		CKSQYF104Z25
RESISTORS			
	R1322 ,R1323		RD1/2PMFL271J
	Other Resistors		RD1/8PM□□□J
OTHERS			
	JACK		AKN-210
	JACK		AKN1010
	CABLE HOLDER		AKT1023

DSP ASS'Y

SEMICONDUCTORS		
	IC708	LC32464P-80
	IC711	MC14053BF
	IC710	TA2063F
	IC709	TC9268F
	IC702	UPC4570G2
	IC701 ,IC704 ,IC705	XRA4558F-P
	IC707	YSS216B
	Q701 -Q703	2SC1845
	D701 -D706 ,D710 -D713	HSS104-02
	D708 ,D709	RD5.1ESB

Mark	No.	Description	Parts No.
FILTER			
	F701		ATF1011
CAPACITORS			
	C828 ,C829		CCSQCH100D50
	C2 ,C738 ,C739 ,C772 ,C818		CCSQCH101J50
	C824		CCSQCH101J50
	C785 -C787		CCSQCH221J50
	C813 ,C814 ,C855 ,C856		CCSQCH270J50
	C859 ,C860		CCSQCH330J50
	C733 ,C734		CCSQSL150J50
	C705 ,C706 ,C709 ,C710		CCSQSL271J50
	C716 ,C719		CCSQSL391J50
	C780		CEAS010M50
	C701 ,C702 ,C723 ,C724 ,C746		CEAS100M50
	C752 ,C754 ,C756		CEAS100M50
	C727		CEAS101M10
	C794 ,C795		CEAS221M16
	C731 ,C766 ,C769 ,C773		CEAS331M10
	C798 ,C799 ,C804 ,C858 ,C865		CEAS331M10
	C735 ,C762 ,C764		CEAS470M25
	C820		CEAS471M10
	C720		CEAS4R7M50
	C811 ,C812		CEEA100M50
	C721 ,C722		CEEA4R7M50
	,C788 -C790 ,C791 -C793		CEXA4R7M50
	C771 ,C821 -C823 ,C825 ,C826		CFTYA104J50
	C844 ,C867 ,C868		CFTYA104J50
	C861 ,C862		CFTYA154J50
	C775 -C777 ,C782 -C784		CKSQYB102K50
	C841		CKSQYB102K50
	C770 ,C796 ,C797		CKSQYB103K50
	C831 ,C864		CKSQYB104K25
	C703 ,C704 ,C707 ,C708		CKSQYB182K50
	C714 ,C717		CKSQYB272K50
	C711 ,C712 ,C758 ,C759		CKSQYB472K50
	C778 ,C779 ,C781		CKSQYB473K50
	C760 ,C761 ,C805 ,C835 -C837		CKSQYB561K50
	C715 ,C718		CKSQYB682K50
	C747 ,C753 ,C755 ,C757 ,C763		CKSQYF104Z25
	C765 ,C768 ,C774 ,C842 ,C843		CKSQYF104Z25
	C866		CKSQYF104Z25
	C830		CKSQYF473Z50
	C729 ,C730 ,C732		CQPA332J100
RESISTORS			
	R800 ,R801		RD1/2PM271J
	R821		RD1/4PM220J
	R727 -R729		RD1/8PM104J
	R802 ,R803		RD1/8PM472J
	R741 ,R742		RFA1/4PS100J
	Other Resistors		RS1/10S□□□J
OTHERS			
	JACK		AKN-210
	X701 CRYSTAL RESONATOR (16.9344MHz)		ASS1073
	CN701 -CN703 1P PIN JACK		BKB1008
	CN9004 20P SOCKET		KP200IA20L
	CN9012 8P SOCKET		KP200IA8L

5. ADJUSTMENT

IDLE CURRENT ADJUSTMENT

Be sure to perform this idle adjustment when the power amplifier has been repaired because the idle current will have changed.

1. Always set the main control VR101 (VR102) to minimum (completely rotated in the counterclockwise direction), turn on the power SW, and wait 5 minutes before beginning the adjustment.

2. Adjust the voltage between RR. L + and PR. L – (PR. R + and PR. R –) to 10 ±3mV using VR101 (VR102).

   After 30 seconds in this state, adjust the voltage to 15 ±2mV.

3. After attaching the power assembly (the bonnet opened), finally adjust the voltahe to 18 ±4mV.

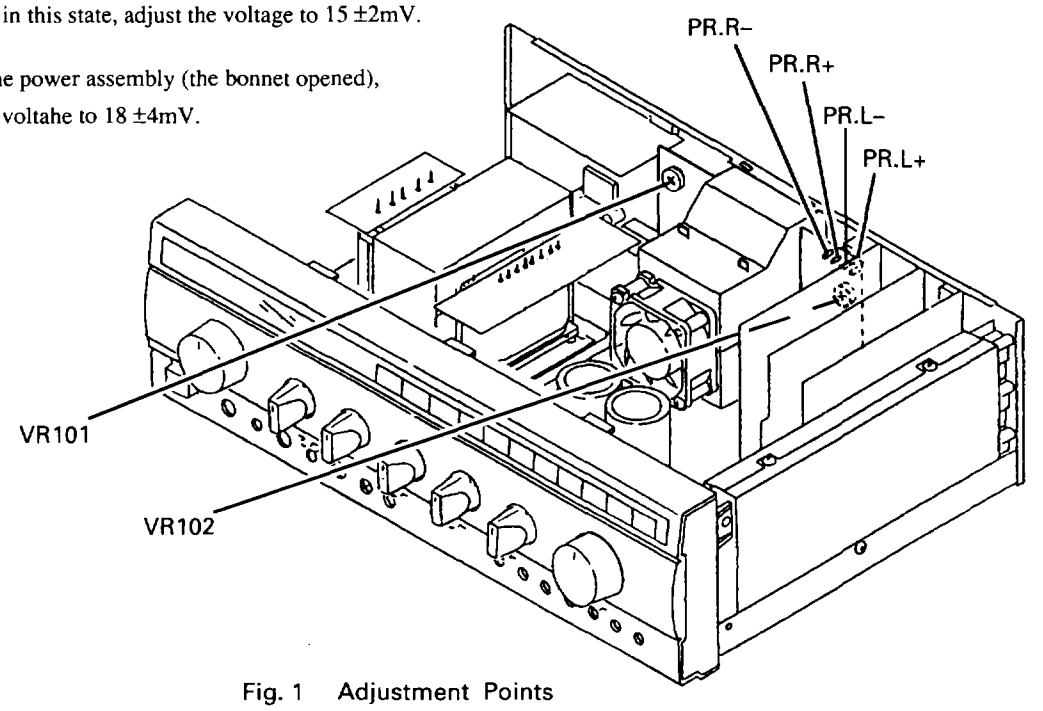


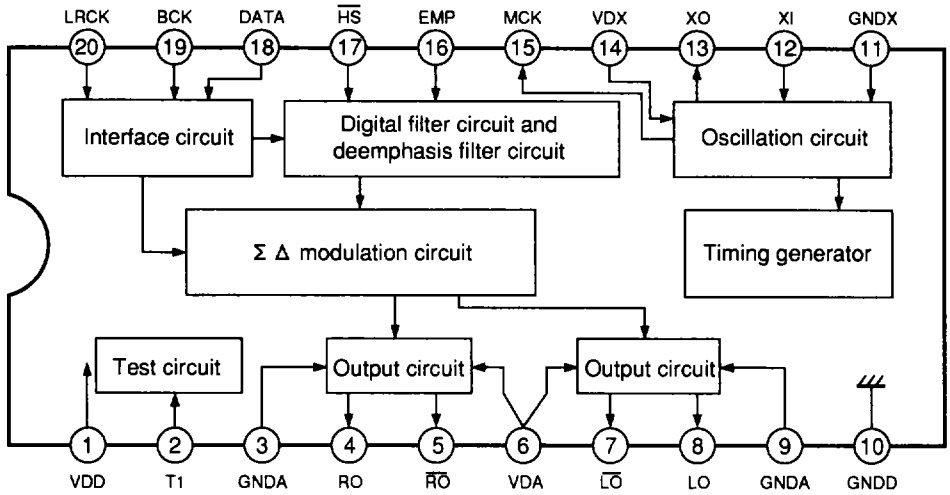
Fig. 1 Adjustment Points

6. IC INFORMATION

• The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

■ TC9268F (IC709)
D/A CONVERTER with 8-TIMES OVER SAMPLING DIGITAL FILTER

●Block Diagram



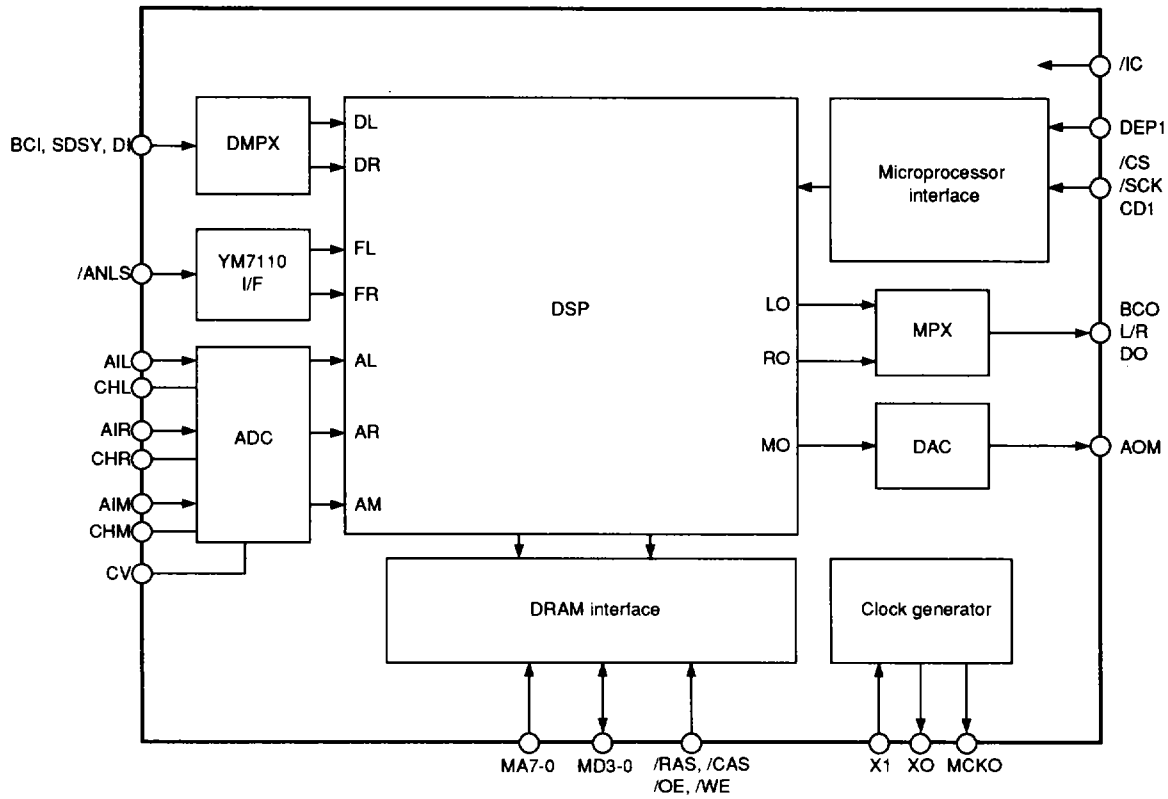
●Pin Fuction

No.	NAME	I/O	FUNCTION
1	V_{DD}	–	Digital section power supply pin.
2	T1	I	Test pin. Normally used at "L".
3	GNDA	–	R channel analog section ground pin.
4	RO	O	R channel data normal output pin.
5	$\overline{RO}$	O	R channel data inversion output pin.
6	VDA	–	Analog section power supply pin.
7	$\overline{LO}$	O	L channel data inversion output pin.
8	LO	O	L channel data normal output pin.
9	GNDA	–	L channel analog section ground pin.
10	GNDD	–	Digital section ground pin.
11	GNDX	–	Crystal oscillation section ground pin.

No.	NAME	I/O	FUNCTION
12	X1	I	Crystal oscillation connection pin.
13	XO	O	Generates the clock required for the system.
14	VDX	–	Crystal oscillator section power supply pin.
15	MCK	O	System clock output pin.
16	EMP	I	Deemphasis filter control pin. Deemphasis filter turns on at "H" Deemphasis filter turns off at "L"
17	$\overline{HS}$	I	Normal/x2 speed operation mode selection pin. Normal operation at "H" and x2 speed operation at "L".
18	DATA	I	Data input pin.
19	BCK	I	Bit clock input pin.
20	LRCK	I	LR clock input pin.

■ YSS216B (IC707)
DSP IC

●Block Diagram



●Pin Fuction

No.	NAME	I/O	FUNCTION
1	V_{DD}	–	+5V power supply (Digital system)
2	/CS	I	Microprocessor interface chip select
3	CDI	I	Microprocessor interface serial data
4	/SCK	I	Microprocessor interface serial clock
5	SDSY	I+	Digital audio input word clock
6	/ANLS	I+	YM7110 data input
7	DI	I+	Digital audio input serial data
8	BCi	I+	Digital audio input bit clock
9	DO	O	Digital audio output serial data
10	L/R	O	Digital audio output word clock
11	BCO	O	Digital audio output bit clock
12	MCKO	O	Master clock (16.9344 MHz) output
13	XI	I	Crystal oscillator connection pin or external clock input (16.9344 MHz)
14	XO	O	Liquid crystal oscillator connection pin
15	/CAS	O	External DRAM interface CAS pin
16	MD 3	I/O	External DRAM interface data pin

No.	NAME	I/O	FUNCTION
17	V_{SS}	–	Ground (Digital system)
18	/OE	O	External DRAM interface OE pin
19	MD 0	I/O	External DRAM interface data pin
20	MD 1	I/O	External DRAM interface data pin
21	/WE	O	External DRAM interface WE pin
22	/RAS	O	External DRAM interface RAS pin
23	MA 6	O	External DRAM interface address pin
24	MA 5	O	External DRAM interface address pin
25	MA 4	O	External DRAM interface address pin
26	VDD	–	+5V power supply (Digital system)
27	MA 7	O	External DRAM interface address pin
28	MA 3	O	External DRAM interface address pin
29	MA 2	O	External DRAM interface address pin
30	MA 1	O	External DRAM interface address pin
31	MA 0	O	External DRAM interface address pin
32	MD 2	I/O	External DRAM interface data pin

●Pin Fuction

No.	NAME	I/O	FUNCTION
33	VSS	–	Ground (Digital system)
34	(NC)		Controls the motor of MIC MASTER VOL. Pins 6 and 7 will not become H simultaneously. They become H only when the specified code is received. Normally set both Pins 6 and 7 to L.
35			
36			
37			
38			
39			
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42			
43			
44			
45			
46			
47			
48			
49			
50			

No.	NAME	I/O	FUNCTION
51	CHL	–A	AIL input sample hold capacity connection pin
52	CHR	–A	AIR input sample hold capacity connection pin
53	CHM	–A	AIM input sample hold capacity connection pin
54	AOM	OA	Analog audio MIC channel DAC output
55	AVSS	–A	Ground (ADC, DAC systems, Connect to VSS externally.)
56	AIL	IA	Analog audio L channel ADC input
57	CV	–A	ADC midpoint voltage pin
58	(NC)		
59	AVDD	–A	+5V power supply (ADC, DAC systems, Connect to VDD externally.)
60	AIR	IA	Analog audio R channel ADC input
61	AIM	IA	Analog audio MIC channel ADC input
62	DEPI	I	Deemphasis processing control pin (H : ON, L : OFF)
63	T1	I+	LSI test pin (Do not connect.)
64	/IC	I	Initial clear input (Low active)

Note) I+ : Input pin with pull-up resistor
A : Analog pin

■ PD5346A
CONTROL MCU

●Pin Function

No.	NAME	I/O	FUNCTION	ACT.
1	Vcc	–	Power supply 5V.	–
2	VREF	–	VREF input.	–
3	AVss	–	GND	–
4	MIC MASTER UP	O	Controls the motor of MIC MASTER VOL. Pins 4 and 5 will not become H simultaneously. They become H only when the specified code is received. Normally set both Pins 4 and 5 to L.	H
5	MASTER DN	O		H
6	MASTER UP	O	Controls the motor of MIC MASTER VOL. Pins 6 and 7 will not become H simultaneously. They become H only when the specified code is received. Normally set both Pins 6 and 7 to L.	H
7	MASTER DN	O		H
8	LD2 V/M	I	Pin which sets the time for the function to switch from the LD2 state to VCR/TAPE or CABLE.	– (A/D)
9	ECHO DELAY	I	Control voltage input for changing the DSP echo delay time.	A/D

VOL. \ No.	4	5
UP	L	H
DOWN	H	L
STOP	L	L

VOL. \ No.	6	7
UP	L	H
DOWN	H	L
STOP	L	L

L	4 sec
H	1 sec

No.	NAME	I/O	FUNCTION	ACT.
10	ECHO REPEAT	I	Control voltage input for changing the DSP echo feedback amount.	A/D
11	TEMP MON	I	Voltage input pin for detecting the POWER AMP temperature state.	A/D
12	CABLE	O	Control pin of AUTO INPUT SELECTOR indicators.	H
13	VCR/TAPE	O		H
14	LD2	O		H
15	LD1	O		H
16	EX. DATA	O	Key control Pin which controls IC1201 (PD0012A) for driving the key control LED	–
17	EX. CLK	O		–
18	CUT OFF	O	Pin which controls the POWER AMP circuit and relay. Operates at "H" Stops the POWER AMP circuit and turns off the relay at "L" "L" for 2 seconds when the power is turned on. Normally "H".	H
19	EX. CE1	O	Key control Pin which controls IC1201 (PD0012A) for driving the key control LED	–
20	D. DATA	O	Pin which controls the DSP IC707 (YSS216B).	–
21	D. CLK	O		–

*1: See page 56.

No.	NAME	I/O	FUNCTION	ACT.
22	D. CE	O	Pin which controls the DSP IC707 (YSS216B).	–
23	D. RST	O		–
24	AC IN	I	Pin which monitors the state of the power supply (When normal) (When abnormal) 4.5V 0 50 or 60Hz 60msec When edge is not detected for more than 60 msec, the following Pins are set to L. (To release, turn off the POWER switch.) No. 18 (CUT OFF)→"L" No. 63 (TAPE REC MUTE)→"L" No. 64 (A MUTE)→"L"	–
25	MODEL	I	Not used	–
26	CNVss	–	GND	–
27	$\overline{\text{RESET}}$	I	RESET input	L
28	SR IN	I	Input pin of remote control signal	–
29	NC	I	Not used	–
30	X IN	–	Crystal oscillator connection pin	–
31	X OUT	–		–
32	Vss	–	GND	–
33	KOZ11	I	Input pin for key control direct key. If "L" continuous for 6 msec, the operations for switching to the key position in the following table are performed.	L
34	KOZ10	I		L
35	KOZ9	I		L
36	KOZ8	I		L
37	KOZ7	I		L
38	KOZ6	I		L
39	KOZ5	I		L
40	KOZ4	I		L
41	KOZ3	I		L
42	KOZ2	I		L
43	KOZ1	I		L
44	TAPE R/P	I	REC OUT mute and function Control "H" PLayback Function is not prohibited When CABLE and VCR/TAPE is set:Pin 64 (R.MUTE) is set to "L". "L" Recording Function VCR/TAPE is prohibited. Pin 64 (R.MUTE) is always "H".	L
45	FAN CTRL	O	Pin which controls the rotation speed of the DC fan for power amplifier cooling. "L" : High speed "H" : Low speed (Constantly)	–
46	VCR REQ	I	Input pin for controlling functions The priority order of the switchings of the functions is as shown in the table on the right.	L
47	LD2 REQ	I		L
48	LD1 REQ	I		L

KOZ1	KOZ2	KOZ3	KOZ4	KOZ5	KOZ6	KOZ7	KOZ8	KOZ9	KOZ10	KOZ11	INTERVAL
L	H	H	H	H	H	H	H	H	H	H	♭5
H	L	H	H	H	H	H	H	H	H	H	♭4
H	H	L	H	H	H	H	H	H	H	H	♭3
H	H	H	L	H	H	H	H	H	H	H	♭2
H	H	H	H	L	H	H	H	H	H	H	♭1
H	H	H	H	H	L	H	H	H	H	H	♮
H	H	H	H	H	H	L	H	H	H	H	♯1
H	H	H	H	H	H	H	L	H	H	H	♯2
H	H	H	H	H	H	H	H	L	H	H	♯3
H	H	H	H	H	H	H	H	H	L	H	♯4
H	H	H	H	H	H	H	H	H	H	L	♯5

Priority Order	Function / PIN	CABLE	VCR/TAPE	LD2	LD1
High ↓ Low	LD1 REQ (Pin 48)	H	H	H	L
	LD2 REQ (Pin 47)	H	H	L	–
	VCR REQ (Pin 46)	H	L	–	–

No.	NAME	I/O	FUNCTION	ACT.
49	LD1 V/M	I	Pin which sets the time for the function to switch from the LD1 state to LD2, VCR/TAPE, or CABLE. (L: 4sec, H: 1sec)	–
50	KI1	I	Key scan input.	–
51	KI2	I		–
52	KI3	I		–
53	KØ	O	Key scan output.	–
54	KO1	O		–
55	KO2	O		–
56	KO3	O		L
57	KCD	I	Input pin from b (KCD), # (KCU) switches of the microphone. • KCD (key control down): The key position is decreased by one. • KCU (key control up): The key position is increased by one.	L
58	KCU	I		L
59	DSP ON/OFF	O	Pin which controls the switch to pass the DSP. "H" : DSP ON...When the key position is ♯.♭. "L" : DSP OFF...When the key position is ♮.	H
60	INH	O	For the function selector Controls the analog switch TC4052 or MC14052BP. The functions shown in the table on the right are selected. INH is not used. Constantly "L".	–
61	4052 B	O		–
62	4052 A	O		–
63	TAPE REC MUTE	O	Pin which mutes the REC OUT. Mutes when "L". Pin 44 (TAPE R/P) changes the conditions. "L" is set for 2 seconds after reset.	L
64	A. MUTE	O	Pin which mutes the audio signal. * MUTE conditions (R:TAPE REC MUTE, A.A MUTE) • Immediately after POWER ON:2 sec • Special function (Differs according to TAPE R/P) • When function is switched (100 msec) • When being changed to POWER OFF (With AC IN input)	L

INH	4052 B	4052 A	Function
L	L	L	CABLE
L	L	H	VCR/TAPE
L	H	L	LD2
L	H	H	LD1

Function	TAPE R/P ON("L")	TAPE R/P OFF("H")
CABLE	H	L
VCR/TAPE	–	L
LD2	H	H
LD1	H	H

*1

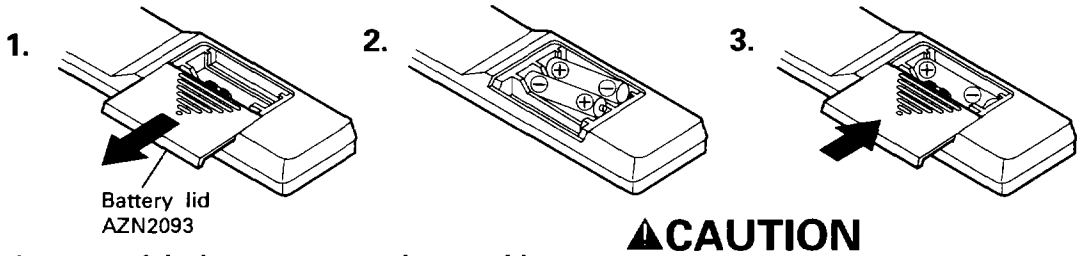
STEP	Input Voltage of Pin 11	State of Other Pins
1	0~0.08V	• Pins 12 to 15 become "H" (Four indicators of the INPUT SELECTOR light up) • Pin 45 becomes "L" (The fan rotates at a high speed.) • Pin 18 becomes "L" (The power amplifier circuit stops.)*2
2	0.08V~2V	• Pin 45 becomes "H" (The fan rotates at a low speed.) • Pin 18 becomes "H". (The power amplifier circuit operates.)
3	2V~2.5V *1(1.7V~2.9V)	• Pin 45 becomes "L" (The fan rotates at a high speed.)
4	2.5V~2.9V *1(1.7V~2.9V)	• The pins amongst 12 to 15 which are "H" repeatedly switch between "H" and "L". (The indicators lit blink.) • Pin 45 becomes "L". (The fan rotates at a high speed.)
5	2.9V~3.3V	• The pins amongst 12 to 15 which are "H" repeatedly switch between "H" and "L" at a high speed. (The indicators lit blink at a high speed.) • Pin 45 becomes "L". (The fan rotates at a high speed.)
6	Above 3.3V	• Pins 12 to 15 become "H". (Four indicators of the input selector light up.) • Pin 45 becomes "L". (The fan rotates at a high speed.) • Pin 18 becomes "L". (The power amplifier circuit stops.)*2

*1 : In steps 3 and 4, the circuit operates on the voltage range shown in the ( ).
*2 : This state is not released unless the POWER switch is turned off.

7. REMOTE CONTROL UNIT (CU-V150 /sold separately)

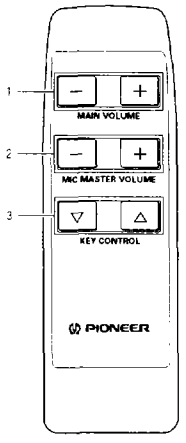
This remote control unit (CU-V150) is available as a separately purchased option, and is not included with the SA-V350 or SA-V300.

INSERTING BATTERIES IN THE REMOTE CONTROL UNIT

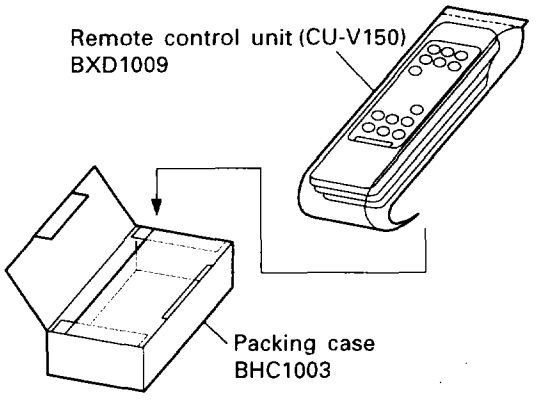


1. **Open the cover of the battery case on the rear side of the remote control unit.**
2. **Take out the two supplied batteries (AAA/R03), and insert them into the battery compartment in accordance with the indications in the compartment.**
3. **Close the cover.**

PANEL FACILITIES



PACKING



⚠CAUTION

Incorrect use of batteries may lead to leakage or rupture. Always be sure to follow these guidelines:

A: Always insert batteries into the battery compartment correctly matching the positive (+) and negative (–) polarities, as indicated inside the compartment.
B: Never mix new and used batteries.
C: Batteries of the same size may have different voltages, depending on their type. Do not mix different types of batteries.

① MAIN VOLUME (–, +) button

Controls the volume of the sound from the speakers.

② MIC MASTER VOLUME (–, +) button

Use to simultaneously adjust the sound volume of all microphones (MIC 1-3).

③ KEY CONTROL (▲,▼) button

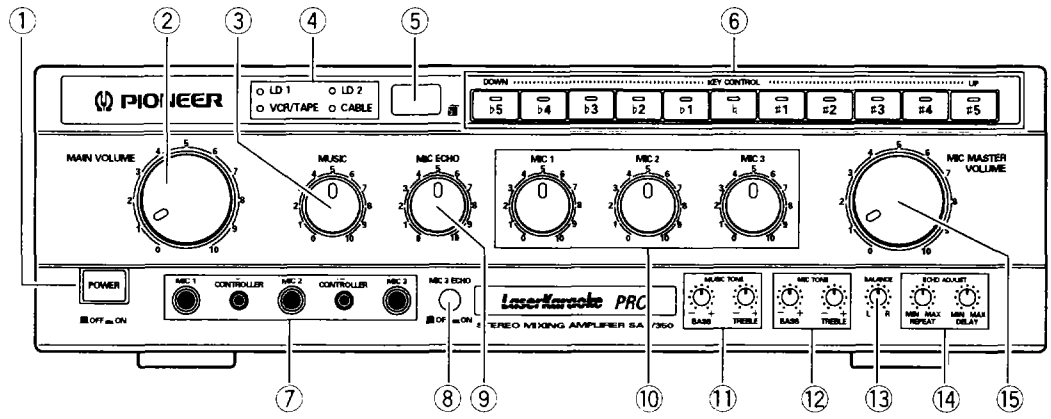
▲ : Changes to a higher key.
▼ : Changes to a lower key.

The optional remote control unit (CU-V150) allows you to control the amplifier from a remote location. Point the remote control unit at the amplifier's sensor. The remote control unit can be used within a distance of 7 m and at up to an angle of 30 degrees.

- The remote control unit might not operate properly when an obstacle exists between the sensor and the remote control unit. Also, the remote control unit might not work if it is pointed from an improper angle.
- Remote control operation might not work if the remote control sensor is directly hit by strong fluorescent light. In such a case, place the fluorescent lamp away from the amplifier.
- If the remote control unit is used near a device emitting infrared rays, or another remote control unit using infrared rays is operated nearby, improper operation might occur. Also, a device using infrared rays might operate improperly if the remote control unit is used near the device.
- Replace the batteries if the available operation range of the remote control unit becomes very small.
- To prevent leakage, remove the batteries if you do not use the remote control unit for a long period (more than 1 month).

8. PANEL FACILITIES

FRONT PANEL



① POWER switch(■ OFF, ▁ ON)
Pressing this switch turns ON the power.
Pressing this switch again turns OFF the power.

② MAIN VOLUME control
Controls the volume of the sound from the speakers.

③ MUSIC control
Controls the volume of equipments connected to the KSS/LD1,LD2,VCR/TAPE and CABLE jacks on the rear panel. Normally, keep the MAIN VOLUME control near the 3-5 position and use the MUSIC control to adjust the volume of the music source.

④ Auto input selector indicators
This unit automatically selects the input source signals with priority in the order of LD1, LD2, VCR/TAPE, and CABLE. These indicators display the output source accordingly.

⑤ REMOTE SENSOR

⑥ KEY CONTROL buttons/indicators
Press to change the pitch of the music source.
■ ♮
Changes to the standard pitch.
■ ♯1 - ♯5
A maximum raise of five tones above the setting of the standard key is possible in semitone-steps.
■ ♭1 - ♭5
A maximum decrease of five tones below the setting of the standard key is possible in semitone-steps.

NOTES:
- *No key change is possible when "CABLE" has been selected by the input selector.*
- *When the track is completed and the video image or sound signal ends, the KEY returns automatically to "♮".*

⑦ MIC (MIC 1 - 3) and KEY CONTROLLER jacks
Three microphones can be connected simultaneously. When using a microphone with key control switch, connect it to MIC 1 or MIC 2 jack. And be sure to connect the control cable to the KEY CONTROLLER jack.

KEY CONTROLLER jack
The set position of the key control might change when the control plug is connected to or removed from the KEY CONTROLLER jack. In such a case, reset to the desired position.

MIC jack
When a microphone is also connected to a MIC INPUT jack on the rear panel, the microphone connected to the front panel has priority. Note that there is no priority order with the key control function.

⑧ MIC 3 ECHO switch (■ OFF, ▁ ON)
This switch controls only the echo for the microphone 3 input.

⑨ MIC ECHO control
Controls the echo levels for microphones 1,2 and 3 simultaneously.

NOTE:
When using a microphone, the original sound itself is processed as well as any effect sound such as an echo, which is added to the original sound.
Therefore, the echo mode will remain activated even when the MIC ECHO control is set to minimum.
When using an effect sound, set the MIC ECHO control to "3"-"4".

⑩ MIC volume controls (MIC 1 - 3)
To adjust the respective microphones volume level against the music source.
Normally, keep the MAIN VOLUME control and MIC MASTER VOLUME control near the 3-5 position and use the MIC controls to adjust the volumes.
MIC 1 and 2 have a function which automatically reduces the sound volume to a proper level when distortion is caused by howling or an excessively loud voice.

⑪ MUSIC TONE control (bass/treble)
Adjusts the tone (bass/treble) of the device connected to the KSS/LD1, LD2, VCR/TAPE or CABLE jacks on the rear panel.

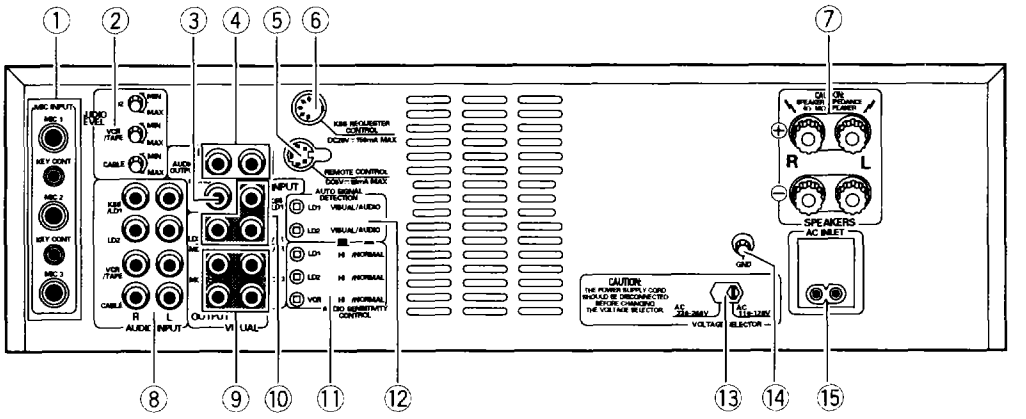
⑫ MIC TONE control (bass/treble)
Can simultaneously adjust the tone of MIC 1,2 and 3. Adjusts bass and treble.

⑬ BALANCE control
Adjusts the sound balance of both speakers.

⑭ ECHO ADJUST control
Varies the echo characteristics of MIC 1,2 and 3.
REPEAT: Adjusts the timing of the echo (number of repetitions).
DELAY: Adjusts the repetition interval of the echo.

⑮ MIC MASTER VOLUME control
Use to simultaneously adjust the sound volume of all microphones (MIC 1-3).

REAR PANEL



① MIC INPUT jacks (MIC 1-3)

The MIC INPUT jacks are also used for connection to the optional wireless mic receiver.
When using microphones with key control remote switch connected to MIC 1 and 2, connect the control cords to the KEY CONT jacks.
If a microphone is connected to the MIC jack on the front panel, front input has priority.

NOTES:

- *Position of the key controller may change by connecting/disconnecting of the remote plug. In such a case, set it again to the desired position.*
- *For the key control function, both front and rear inputs are effective.*

② AUDIO LEVEL controls

LD2

Controls the volume of the LD2 AUDIO INPUT terminals sound.
Under normal conditions, leave this dial in the center position.
If you notice excessive difference in sound volume with the component connected to the KSS/LD1 jacks, use this dial to adjust the volume.

VCR/TAPE

Control the input sound level of devices connected to the VCR/TAPE AUDIO INPUT terminals.
Under normal conditions, leave this dial in the center position.
If you notice excessive difference in sound volume with the component connected to the KSS/LD1 jacks, use this dial to adjust the volume.

CABLE

Controls the volume of the CABLE AUDIO INPUT terminals sound.
Under normal conditions, leave this dial in the center position.
If you notice excessive difference in sound volume with the component connected to the KSS/LD1 jacks, use this dial to adjust the volume.

③ AUDIO OUTPUT jack (MONO)

The L and R audio signals input to the AUDIO INPUT jacks (KSS/LD1,LD2,VCR/TAPE,CABLE) always appear as L + R monaural.

④ AUDIO OUTPUT jacks (R,L)

These jacks are used to output the L and R audio signals which have been input to the AUDIO INPUT terminals (KSS/LD1,LD2,VCR/TAPE,CABLE) of this unit. The sound from the AUDIO OUTPUT jacks can be adjusted using the unit's MAIN VOLUME and BALANCE control.

⑤ REMOTE CONTROL input jack

Connect the optional remote control satellite. Installing the satellite on the ceiling or wall allows the remote control unit to function properly even if obstacles exist between the amplifier and the remote control unit. See the instruction manual of the remote control satellite for details of connection.

⑥ KSS REQUESTER CONTROL jack

Connect the optional song request system (KSS-V100). When the remote control unit furnished with the KSS-V100 is pointed at this amplifier's sensor, the remote control unit can be used to send data to the connected song request system.

⑦ SPEAKERS terminals

For details, refer to "CONNECTIONS" on pages 3, 4.

NOTE:

Always connect the plus (+) and minus (−) wires of the speakers to the speaker terminals of the same polarity. A polarity error can cause unnatural sound.

⑧ AUDIO INPUT jacks

KSS/LD1, LD2

Connect to the AUDIO jacks of a LD player.

VCR/TAPE

Connect to the AUDIO OUT jacks of a VCR or to the PLAY (OUTPUT) jacks of a cassettedeck.

CABLE

Use to connect a cable broadcast receiver.

⑨ VISUAL OUTPUT jacks

MON (Monitor) 1-3
Jacks for connection to the VIDEO INPUT jacks of TV monitors (maximum three monitors).
VCR
Signals input to the VCR VISUAL INPUT jack of the SA-V350/SA-V300 will always be output. By connecting to a TV monitor, you can monitor a VCR.

⑩ VISUAL INPUT jacks

KSS/LD1, LD2
Connect to the VIDEO OUTPUT jack of the LD player.
VCR
Connect to the VIDEO OUTPUT jack of the VCR.

⑪ AUDIO SENSITIVITY CONTROL buttons

Use to control the audio detection sensitivity of the component connected to the KSS/LD1, LD2, and VCR/TAPE AUDIO INPUT jacks.

LD1 ▁ **NORMAL**: Normal position
▮ **HI** : Set this switch to HI if the function automatically changes to "LD2", "VCR/TAPE", or "CABLE" during playback of the component connected to the KSS/LD1 jacks.

LD2 ▁ **NORMAL**: Normal position
▮ **HI** : (When no KSS/LD1 signal is input) Set this switch to HI if the function automatically changes to "VCR/TAPE" or "CABLE" during playback of the component connected to the LD2 jacks.

VCR ▁ **NORMAL**: Normal position
▮ **HI** : (When neither KSS/LD1 nor LD2 signal is input.) Set this switch to HI if the function automatically changes to "CABLE" during playback of the component connected to the VCR/TAPE jacks.

⑫ AUTO SIGNAL DETECTION buttons

Use to select whether auto input selection is performed in accordance with the video signal or audio signal.
Set these buttons to AUDIO when the component connected to the KSS/LD1 and LD2 jacks is a CD player or other component which does not produce a video signal.
In the case of a component with a video signal, set these buttons to VISUAL.

NOTE:
In the case of components which produce a video image even when the track is stopped, auto input selection will not be performed if the buttons are set to VISUAL. As a result, in such cases set the buttons to AUDIO.

⑬ VOLTAGE SELECTOR switch

⑭ GND (Ground) terminal

Always ground this unit to prevent electrical shock and to avoid generating interference or noise in other equipments.

⑮ AC INLET jack

Connect one end of the power cord to here and the other end to an AC wall socket.
If you are going to be away from home for a long period of time, disconnect the power cord from the wall socket.

9. SPECIFICATIONS

SA-V350

Continuous power output (DIN)
1 kHz, T.H.D. 1.0 %, 4 Ω ..... 150 W + 150 W
Peak music power (8 Ω) ..... 400 W + 400 W
Total harmonic distortion
(AUX IN, 1 kHz, 60 W, 8 Ω) 0.1%
Input Terminal (Sensitivity/Impedance)
Audio
MIC ..... 2.0 mV/25 kΩ
VCR/TAPE ..... 200 mV/50 kΩ
LD1, LD2, CABLE ..... 200 mV/50 kΩ
Video
LD1, LD2, VCR 1 Vp-p/75Ω
Output Terminal (Output level/Output impedance)
Audio
MONITOR L + R, L, R ..... 1 V/2.2 kΩ
Video
MONITOR, VCR ..... 1 Vp-p/75 Ω
Speakers Terminal ..... 4 to 16 Ω
Frequency Response
MIC ..... 50 Hz to 10 kHz $^{+0}_{-3}$dB
LD1, LD2, VCR/TAPE, CABLE ..... 10 Hz to 40 kHz $^{+1}_{-3}$dB
Tone Control (Music/Mic)
BASS ..... $\pm\frac{14}{13}$ dB/$\pm\frac{14}{13}$dB (100 Hz)
TREBLE ..... $^{+9}_{-12}$dB/ $^{+3}_{-12}$dB (10 kHz)

Echo delay time/decay time ..... 50 to 200 msec / 0.6 - 6 sec
Key Control Range
..... ± 2.5 musical intervals (11 positions)
Signal to Noise Ratio (EIA)
MIC ..... 64 dB
LD1, LD2, VCR/TAPE, CABLE ..... 71 dB

Power Supply,Others
Power requirements
..... AC 110 - 120 V/220 - 240 V, 50/60 Hz
Power consumptions ..... 630 W
Dimensions ..... 420 (W) × 129 (H) × 343 (D) mm
Weight (without package) ..... 9.7 kg

Accessories
Power cord 1
Audio cord 1
Operating instructions 1

NOTE:
Specifications and design subject to possible modification without notice, due to improvements.

SA-V300

Continuous power output (DIN)
1 kHz, T.H.D. 1.0 %, 4 Ω ..... 80 W + 80 W
Peak music power (8 Ω) ..... 260 W + 260 W
Total harmonic distortion
(AUX IN, 1 kHz, 30 W, 8 Ω) 0.1%
Input Terminal (Sensitivity/Impedance)
Audio
MIC ..... 2.0 mV/25 kΩ
VCR/TAPE ..... 200 mV/50 kΩ
LD1, LD2, CABLE ..... 200 mV/50 kΩ
Video
LD1, LD2, VCR 1 Vp-p/75Ω
Output Terminal (Output level/Output impedance)
Audio
MONITOR L + R, L, R ..... 1 V/2.2 kΩ
Video
MONITOR, VCR ..... 1 Vp-p/75 Ω
Speakers Terminal ..... 4 to 16 Ω
Frequency Response
MIC ..... 50 Hz to 10 kHz $^{+0}_{-3}$dB
LD1, LD2, VCR/TAPE, CABLE ..... 10 Hz to 40 kHz $^{+1}_{-3}$dB
Tone Control (Music/Mic)
BASS ..... $\pm\frac{14}{13}$dB/$\pm\frac{14}{13}$dB (100 Hz)
TREBLE ..... $^{+9}_{-12}$dB/ $^{+3}_{-12}$dB (10 kHz)

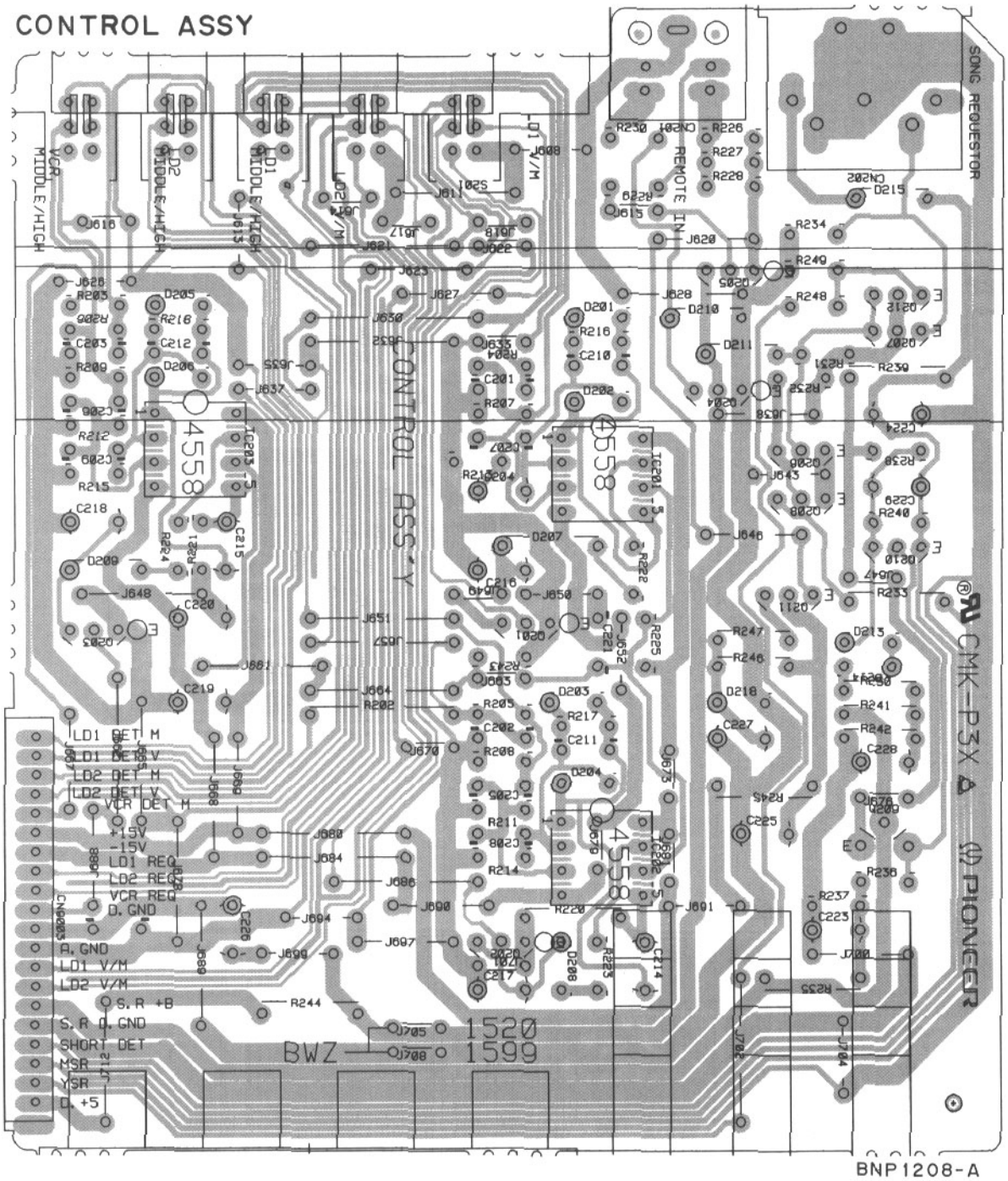
Echo delay time/decay time ..... 50 to 200 msec / 0.6 - 6 sec
Key Control Range
..... ± 2.5 musical intervals (11 positions)
Signal to Noise Ratio (EIA)
MIC ..... 64 dB
LD1, LD2, VCR/TAPE, CABLE ..... 71 dB

Power Supply,Others
Power requirements
..... AC 110 - 120 V/220 - 240 V, 50/60 Hz
Power consumptions ..... 380 W
Dimensions ..... 420 (W) × 129 (H) × 343 (D) mm
Weight (without package) ..... 8.0 kg

Accessories
Power cord 1
Audio cord 1
Operating instructions 1

NOTE:
Specifications and design subject to possible modification without notice, due to improvements.

- **This diagram is viewed from the mounted parts side.**



IC203
Q203

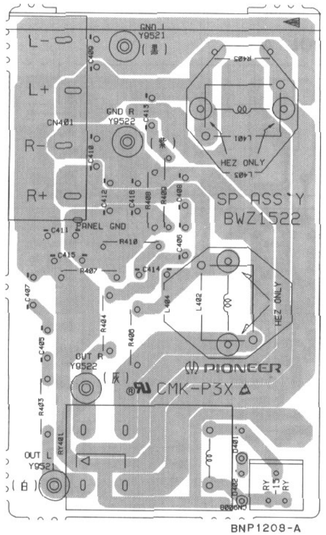
Q201 IC201 Q205 Q212
Q202 IC202 Q204 Q207
Q206
Q208 Q210
Q211 Q209

PCB-9

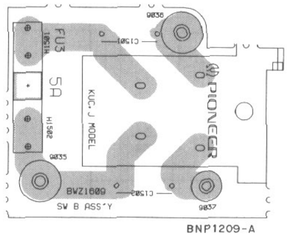
• This diagram is viewed from the mounted parts side.

PCB-8

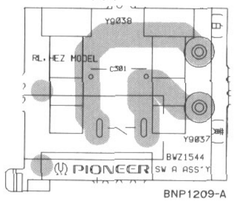
SP ASSY



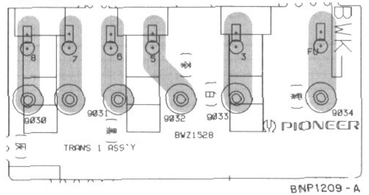
SW 2 ASSY



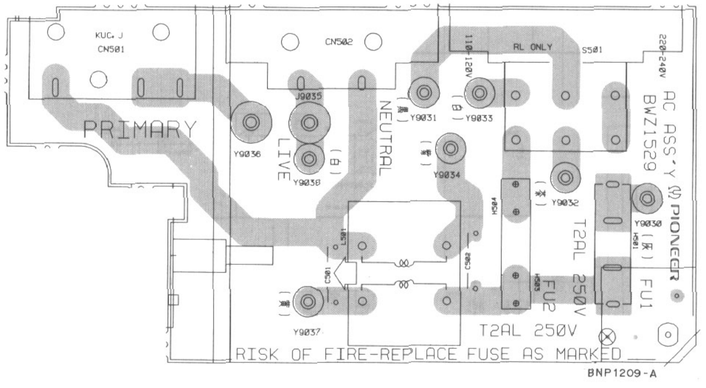
SW 1 ASSY



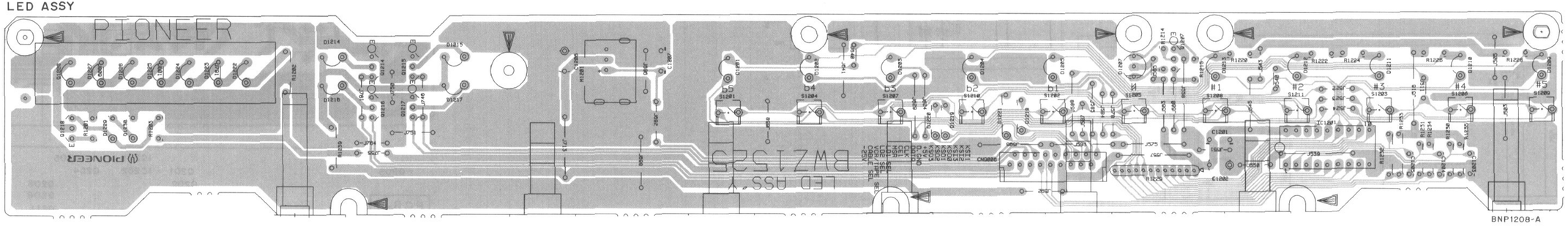
TRANS 1 ASSY



AC ASSY



LED ASSY



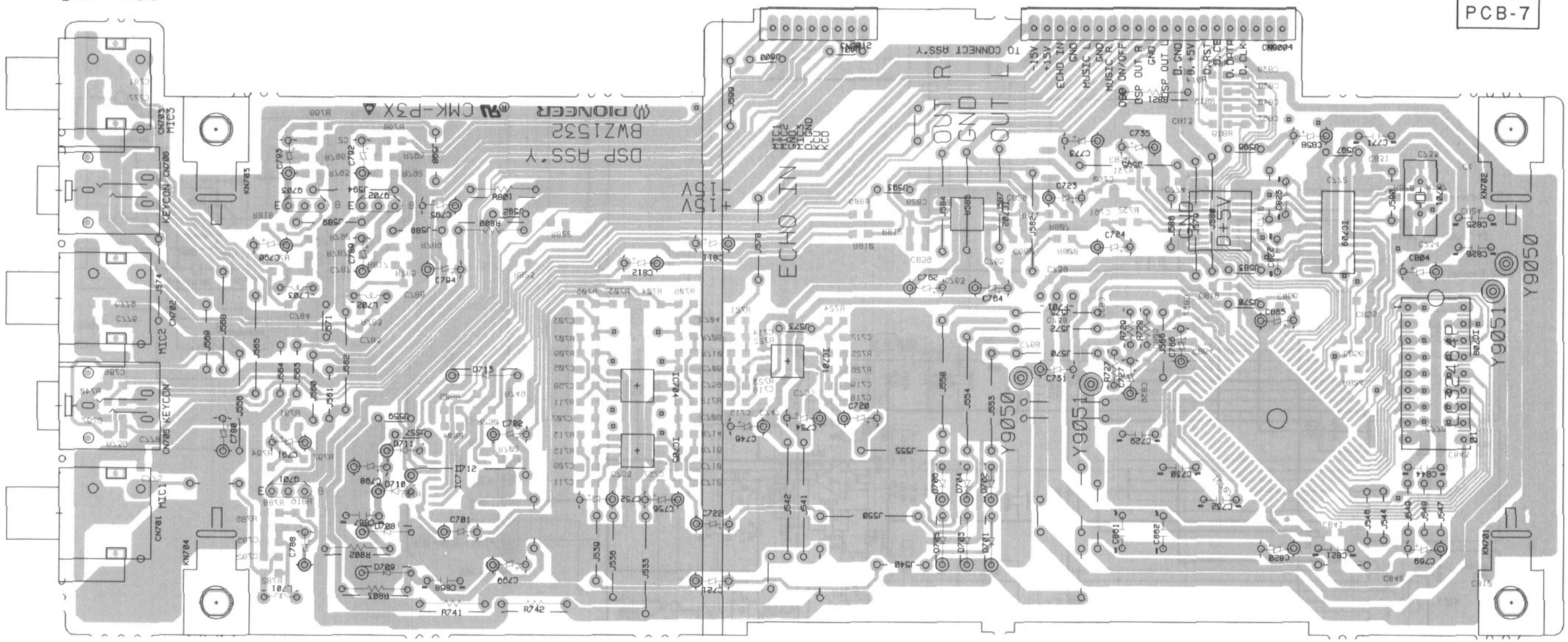
Q1218 Q1214 Q1215 Q1216 Q1217 Q1207 IC1201

3-8 DSP ASSY

- **This diagram is viewed from the mounted parts side.**

DSP ASSY

PCB-7



Q703
Q701

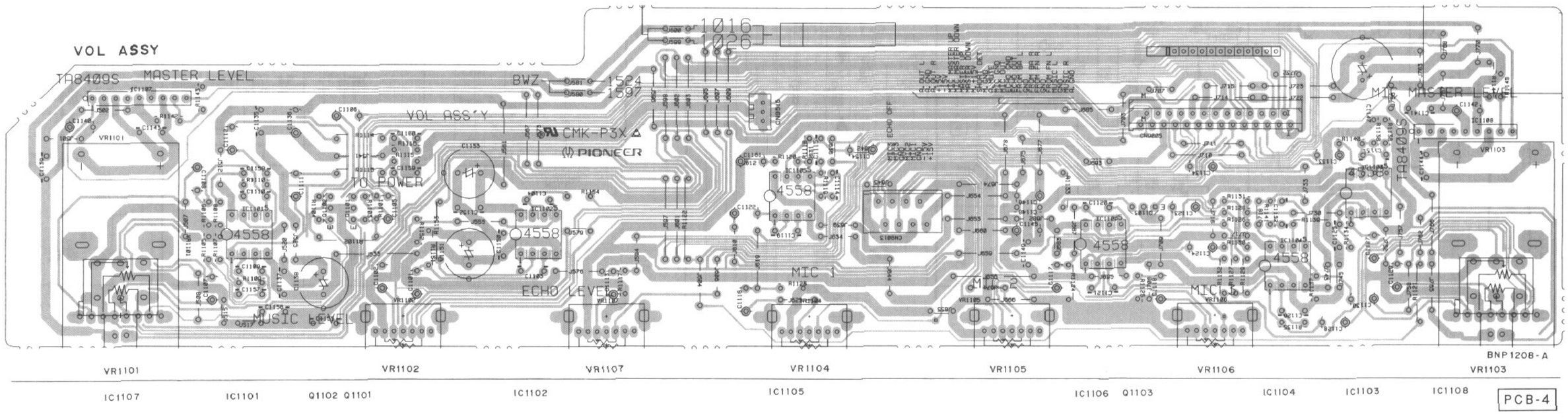
IC704
IC705

IC701

IC709

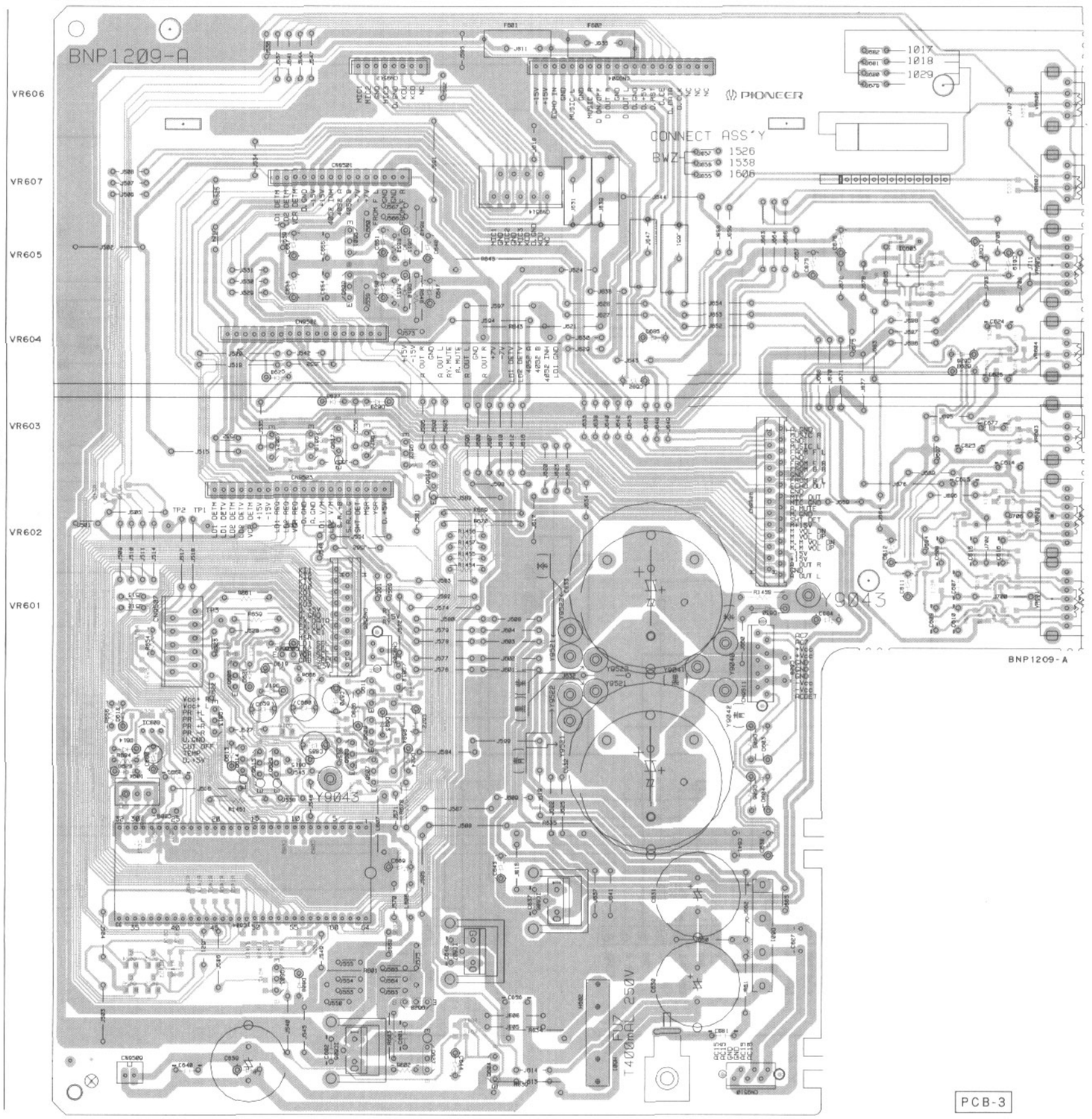
IC708

- This diagram is viewed from the mounted parts side.



• This diagram is viewed from the mounted parts side.

CONNECT ASSY



VR606
VR607
VR605
VR604
VR603
Q621 Q619 Q617 Q622
Q620
Q618
VR602
VR601
Q612
Q606 Q611
Q613 Q609
IC608 Q608
Q614 Q615 Q629 Q607
IC604 IC606
IC607
Q403 Q628
Q627
IC605
Q604

• This diagram is viewed from the mounted parts side.